

SPIRIT OF THE TIMES

Myths, Mythology & Myth-busting

Debunking Reality

A New Mythology

Where Did We Come From?

**The Flawed Paradigms
of Economics and
Sustainable Development**
By Richard Sanders

**A Tragedy of
Circumstance**
by Peter Joseph

Walk for Solar

**Documentary Series Review:
A Crude Awakening**

**Book Review
The End of Growth,
by Richard Heinberg**

**Debunking the
Venus Project**

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Letter from the editor

Dear pensive reader,

2012 is coming to a close soon and the end of the world is nigh, if the doomsday prophets are to be believed! Of course most people don't really think we're about to meet our end, but such stories are worth examining for a variety of reasons, not least for the value of exploring our cultural myths and their effects on how we run our societies.

Welcome to the eighth issue of Spirit of the Times in which we challenge our cultural narratives and examine the need for a new mythology! Between the usual life-dramas and more, our multi-tasking team of inter-state volunteers has once again managed to pull together a wholesome treat for the critical thinking mind.

Each of our bimonthly compilations aims to present global issues primarily within an Australian context, delivering Australia-specific news items from an alternative perspective, informative articles regarding contemporary issues, discursive analyses, social commentary and critique, and book and film reviews with content relevant to the aims and ethos of a paradigm in which sustainability is the bottom line. Each issue presents its own theme; and this one is "Myths, Mythology, and Myth-Busting".

It is in this, our eighth issue, that contemporary myths and narratives of our society are examined and critiqued, and approaches to mythology and narrative as catalysts for a paradigm of sustainability

are explored. Those of us brave enough to challenge norms and ask challenging questions are sure to find something to chew on amongst the food for thought offered in this issue!

We hope that you will find this an inspiring and empowering read, and that you will find information worth sharing!

Regards,



Kari McGregor &
the Spirit of the Times team

Any feedback regarding current articles or enquiries about future submissions is to be sent to: magazine@thespiritofcommunity.org

Please indicate whether you would like feedback to be passed on to the writer of any given article, and/or published in the next issue. Thank you.

some of The Spirit of the Times Team

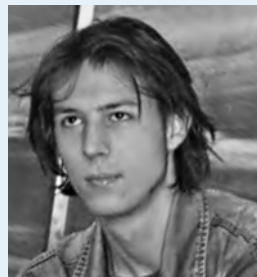
Introducing the tireless team of collaborators - the Spirit of the Times team of volunteers work together, despite their day-jobs, to produce this magazine, packed full of professional quality work. Our blood, sweat and tears are delivered to you in A5, A4, pdf, you name it - we produce it!

Each issue hosts articles from a number of socially conscious Australia-based writers, with the occasional overseas guest.



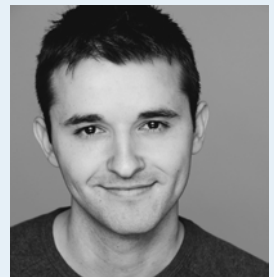
Kari McGregor

Editor of Spirit of the Times and co-organizer of the Australian chapter of the Zeitgeist Movement, Kari is a teacher by day and a lifelong sustainability advocate at heart.



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Ben Matei

Head of the graphics team and writer for Spirit of the Times, Ben is a graphic designer by day in between the sustainability projects he considers his real work.

NEWS THROUGH THE PRISM

The Innocence of (insert religious/ethnic/cultural group): Manufacturing Your Consent?

Yet again, hatred against a particular group of human beings is being utilized to manufacture consent.

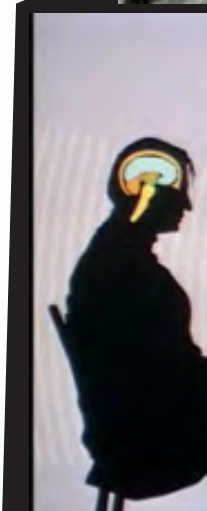
In light of the recent “Innocence of Muslims” scandal, in which a film ridiculing the Muslim faith and purportedly insulting the prophet was produced by a radical anti-Muslim Christian sect and distributed with the intention of stoking fires, we need to examine what is really happening beyond the reportage of the mainstream media.

Have we swallowed, hook, line and sinker, the narrative that depicts Muslims as bloodthirsty hate-mongers baying for the blood of “infidels” every time an irresponsibly insulting cartoon or video is released? Do we not know manipulation and agenda-hijacking when we see it? Have we not stopped for a moment to consider that it is, in fact, insulting to harass and ridicule adherents of any particular school of thought rather than get to know them as equal human beings who may well not all adhere to the nonsensical stereotype portrayed in such low-calibre slurs? Particularly when we so consistently invade and occupy their countries and

make assaults on their way of life – both metaphorical, and literal, as evidenced by too many bombing campaigns and lost lives of innocents to count.

It seems we need to take a long, hard look at the real targets of the mainstream media’s spin on the “Innocence of Muslims” scandal: us.

Religion, as with any mythology, has long been used as a tool of manipulation, but in this modern era anti-religious sentiment also features prominently in the propagandists’ toolkit. With the rising trend of atheism, agnosticism, and even fervent anti-religionism, it appears that Marx’s criticism of religion as a tool of the ruling classes to propound their ideologies can also be applied to a stance taken against any particular religion. We would do well to be on guard with regard to sentiments spouted against any given religious, ethnic or cultural group, as this serves only to propound the ideologies of those who seek to manipulate public opinion and manufacture our consent for their imperialist wars.





Stop to think for a moment why the western world is so outraged at some radical Muslims waving placards calling for the execution of the inflammatory film's producers, yet apparently fails to bat an eyelid at the very real and public executions of Rohingya Muslims in Burma at the behest of Buddhist monks. Without excusing any of the deplorable responses to this latest inflammatory low-grade piece of media junk, aren't we failing to apply universality in our judgement? Or are we allowing a hint of manufactured prejudice to make us into hypocrites who have no problem with the murder of innocent Muslims at the hands of Buddhists yet go crazy at the notion that Muslims might be angered by our repeated assaults on their way of life, and their security. Is it not possible that our manufactured prejudice has somewhat more to do with the parts of the world inhabited by Muslim majority populations just happening to be sitting atop large caches of natural resources which our governments and corporations want to get their hands on, but whose governments refuse to play ball?

Lest we forget, the propaganda machine in Nazi Germany succeeded in manufacturing the consent of an entire population with regard to the extermination of millions of innocent Jews. The "Innocence of Muslims" title may serve as a reminder of the innocence of the majority of those attacked with the Islamophobic fervour that has swept the world in response the manufactured protest taking place in much of the Muslim world. A precedent which may well result in yet another population of innocents slaughtered for the sake of a hegemonic behemoth – this time the US regime.

Surely no one can forget the Jihad schoolbooks scandal? During the US/Soviet hegemonic struggle known as the Cold War UNICEF proudly distributed Jihadi material to school children in occupied Afghanistan, under the guise of teaching mathematics (through counting guns, tanks and bullets...), etc. and, of course, that the only good Soviet was a dead Soviet... All this not-too-subtle indoctrination came at the behest of the United States so that Afghanis would unwittingly manufacture an entire

generation (or two) that harboured militant anti-communist and anti-Soviet sentiments to the benefit of US hegemony. Unfortunately, or some would say fortunately, this has resulted in general anti-western sentiments among many, and the capacity to recognize when one's land is invaded, occupied, and exploited. Never fear, such sentiments can always be used to manufacture western consent of ever more bombing of innocent Muslim women, men and children for the sake of access to fossil fuel resources... and now mineral wealth.

In these confusing times, whenever hatred is propagated against any particular group, one thing remains clear and must be duly noted: this hatred was not originally manufactured to serve either the "us" or the "them" side of the fence. It is used, however, on both sides unsparingly, as with the case of "Innocence of Muslims", which was aggressively promoted by radical Muslim and radical Christian groups alike, for the same ultimate purposes: to stir hatred and manufacture the consent of what is to follow. This hatred is carefully calculated and manipulated, and is advanced with a particular agenda which the "us and them" mentality serves unawares. An agenda that will see further death and destruction for the sake of corporate profits and global hegemony, an absurd advance in the direction of the destruction of humanity that we cannot afford to be pushed in.

Do not allow your consent to be manufactured. Question everything and accept nothing pre-filtered. Take responsibility for your own learning and analysis and be on guard. Hard times are coming and your consent will be required for what will be carried out in the name of your security.

And what if your consent is not required? Then, my friend, it is you who are the innocent to be sacrificed. Take heed.

Climate Scepticism: Controversy Shrinking at the Rate of Ice

It is likely the controversy is over.

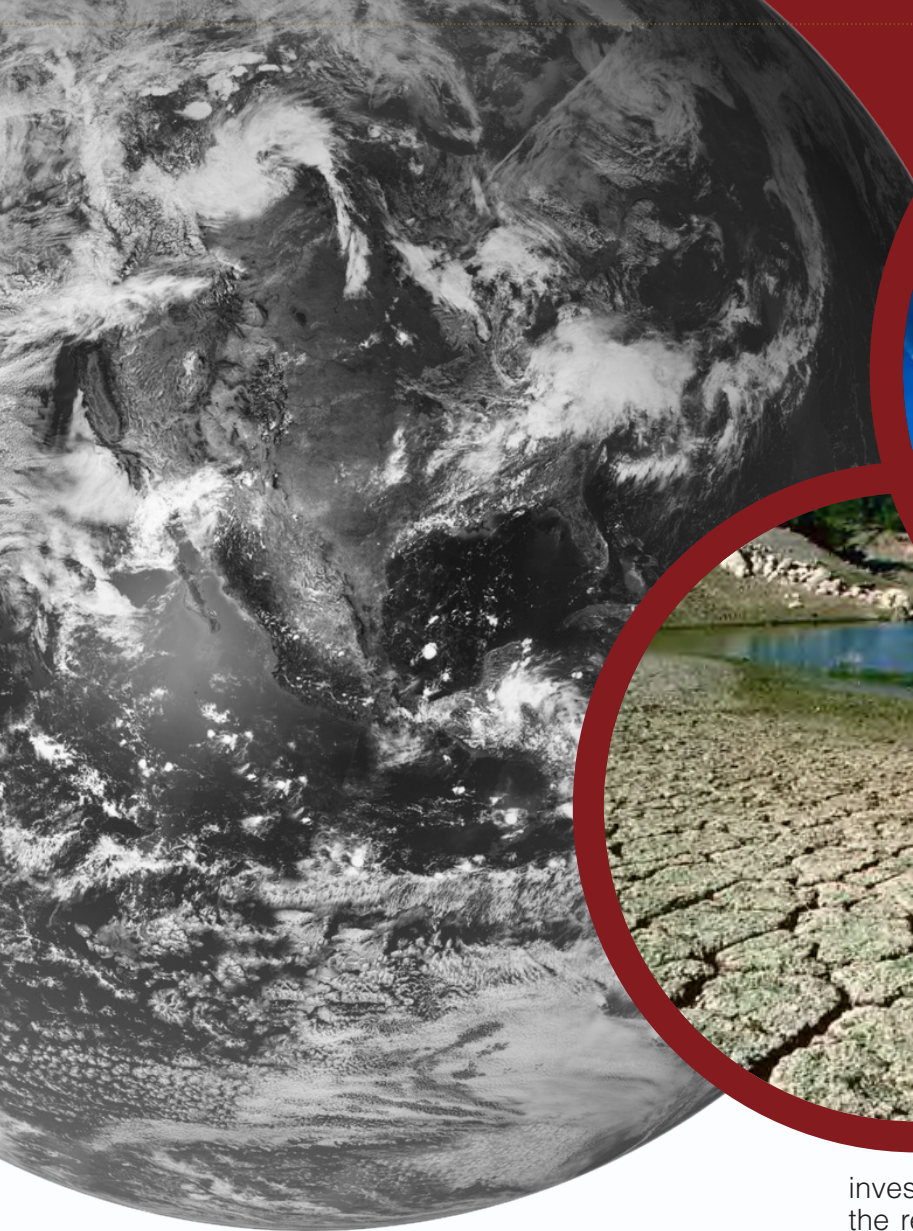
It is unlikely that climate-change sceptics will continue to have much sway over public opinion in the face of the overwhelming evidence now in. Comparisons spanning more than 1,400 years shows accelerated rates of summer Arctic ice-melt descending into free-fall. While the scientific consensus is that the Arctic will be ice-free during the summer months in the not-too distant future, the jury is out with regard to precisely when – some claiming we have a decade or two, others as little as 4 years. Regardless of when the final melt occurs this will be an unprecedented occurrence in the space of humanity's existence on this planet.

March-September 2012 saw the biggest loss of ice since satellite measurements began in 1979 with 11.8 million square kilometres lost. Reaching a new record minimum, the 2012 measurements record ice coverage at a whopping 18% less than the previous record low of 2007. With more of the dark ocean water exposed, more of the sun's energy is absorbed; this raises temperatures further still, accelerating the rate of ice melt. Under such conditions it is harder for new ice to form, and winter ice does not grow as thick, rendering it more vulnerable to summer melt.



Global weather patterns are set to change dramatically as a result of an ice-free Arctic. Although Arctic ice-melt does not directly lead to rising sea levels as the ice is floating sea-ice, the extra heat generated by the melting is quickening the pace of melting of the Greenland ice sheet. Loss of the Greenland ice sheet translates to a 7 metre global sea-level rise which, although it would not occur overnight, would wreak devastation on living conditions worldwide. With a 1-metre rise considered highly likely within this century alone there is much to ponder.

With a 2-degree centigrade target agreed upon as the maximum acceptable level of warming with regard to the level of damage caused Bill McKibben comments that this is a sign of our desperation, not our safety margin. Although a 2-degree increase in global mean temperature would be catastrophic, it is unlikely that we will stay within those boundaries with our current plan of action being business as usual. According to Fatih Birol, chief economist of the IEA, the current trend points toward a 6-degree increase – an increase that would render our planet unrecognizable.



It is estimated that there is reasonable leeway beneath the 2-degree increase mark for humanity to emit approximately 565 gigatons more CO₂ into the atmosphere before the middle of the century. What is less commonly understood is that “reasonable” in this sense refers to a 4 in 5 chance, or, to put it bluntly, somewhat worse odds than playing Russian roulette. What this means, on real terms, is that even if we are reasonably conservative and cut our rate of emissions sharply we are likely to hit or exceed the 2-degree mark, at which our future is uncertain.

What is perhaps even more disturbing than all of these figures is the 2,795 gigatons of carbon contained within the known coal, oil and gas reserves of the fossil-fuel companies and major producing countries. The reason this number is so disturbing is because it's the amount of fossil fuel we intend to burn. And it's 5 times higher than the than the 565 gigatons we can “safely” burn without guaranteeing an overshoot of the 2-degree limit. And although this fossil fuel is still technically in the ground, economically speaking it's already been factored into the equation. Corporate and national budgets are based on the presumed returns on their

investments in these resources. 2,795 gigatons is the reason why corporations have fought so hard for the rights to drill, frack and pump; the \$27 trillion this represents to those corporate interests is the reason we are facing a toss-up between a healthy fossil-fuel balance sheet and a healthy planet with the dice loaded on the side of the money.

It is easy to choose the side of the climate sceptics; it's a far more appealing scenario to believe we're just being taken for a ride by carbon-traders and renewable energy profiteers – as opposed to those trading in the burning of carbon and fossil-fuel profiteers. What is more likely, however, in light of the remarkable similarity in the figures quoted by the scientific community, is that the scientific consensus is refining its accuracy, and that we have little time left for quibbling over whose view of reality is correct. Let's put it this way: if we choose to side with the renewable energy profiteers and it turns out we're wrong – nothing bad happens; if we choose to side with the fossil-fuel profiteers and it turns out we're wrong – we're screwed.



NEWS THROUGH THE PRISM

The Heresy of the Post-Growth Message

With Australia frantically gambling its future on resource extraction for a growing Chinese economy – one that has been growing at a rate of 7-10% per year – one would think that we were on the verge of breaking the bank. But in the grand casino of planetary resources there can only ever be one winner: the house. As China's bubble looks set to burst Australia's commodity prices are set to plummet, an unwelcome truth recently uttered by Resources Minister Martin Ferguson. And as with all boom towns, Australia is headed for a bust.

The position that there are limits to economic growth is one that can incite ridicule toward even the most celebrated experts. With economic growth touted as the necessary factor in job creation and returns on investments the steady-state economic argument is tantamount to "arguing against petrol at a Formula One race", comments Richard Heinberg, senior fellow of the Post Carbon Institute.

The free-market faith preaches that public sector spending must be reduced in order for private enterprise to be sufficiently "liberated" from the shackles of constraint that are holding back economic growth. Campbell Newman's September cull of 14,000 Queensland public sector jobs – most notably in environment and planning – appears as an act of prayer to the free-market faith. But European examples reveal that austerity measures have had the opposite of the desired effect, with countries implementing programs of austerity experiencing less growth overall.

With neither free-marketeers nor proponents of public spending willing to concede their position, public attention is diverted from the encroaching reality that economic growth is reaching its bitter end. With absolute limits to both natural resources and the level of debt any system can sustain our illusion must eventually be shattered, and the echo will likely resonate loudly enough to be heard across the political spectrum.

Despite the fears of a global economic collapse there are those who see the ending of this era as a blessing in disguise as it is likely the only wake-up call loud enough to stop us in our tracks, derailing our headlong rush towards ecological disaster. With the spiralling economic costs of climate change already reaching calamitous proportions, and record droughts and floods becoming commonplace, we are receiving the message loud and clear: growth will end whether we like it or not.

Life after growth is inconceivable for most – particularly those economic supergiants whose paychecks depend upon their rejection of the overwhelming evidence that their work cannot continue



for much longer. However, life after growth is a notion that must be entertained, and one that need not hit us as hard as the factors that will ensure its inevitability – if only policy can be steered onto a pre-emptive course that can assist with a soft landing.

With the heretical post-growth message getting such little attention it is likely we will watch the European, American and Chinese economies topple like dominoes before realising that we, too, are on the Titanic. The view from the top deck is panoramic, yet our field of vision is narrow. With our growth-obsessed mythology a mantra scarcely recognized as false it is likely we will continue to dance in the ballroom as the ship goes down until we find ourselves floundering and our ideology comprehensively debunked.





A TRAGEDY OF CIRCUMSTANCE

By Peter Joseph

Love Story

The love story - a staple of our history and culture. As much as modern economic theory and the dubious claims about our supposed "human nature" would have us believe that all humans are merely selfish organisms that would rather sacrifice each other than save each other for the sake of mere convenience, the archetypal love story prolific in our artwork challenges all - and reminds us of our deeply empathic and social nature - a clear characteristic of our evolutionary psychology and perhaps even the hidden saving grace of our evolutionary fitness as a species.

However, likely the grandest of all love stories in our history might be the heartbreaking depiction found in Shakespeare's classic: *Romeo and Juliet*. Among the many themes in this play is the taboo of their love due to their feuding enemy families, and in their pressured attempts to overcome they meet a doleful, epic demise.

The reaction of the audience to this tragic romance is fairly predictable. Rarely does the

sympathy of the reader turn to support the families, which were at odds, while thinking that *Romeo and Juliet* got what they deserved. Rather, we identify with the desperate, loving couple whose lives are vanquished due to the circumstance they found themselves in.

At the core of this play, love story aside, is a broader concept we will call the "Tragedy of Circumstance". Perhaps the true brilliance of this work is its hidden message of how each of us are born into familial, cultural, political, religious and other pre-existing sociological establishments which, without our choice in many ways, influence our thoughts, biases, loyalties, ambitions, ideas, social affiliations and the like.

In this sense, we are all victims, just like *Romeo and Juliet*, and likely the most tragic part of all comes when these influences, once given a human face or group association, clash with the influences of other persons or groups - each side having no idea they are both victims of circumstance in their ultimately vain opposition.

Miss Orly Weinerman

In early September 2012 I was introduced to an Israeli actress named Orly Weinerman through a friend involved in the Israeli chapter of The Zeitgeist Movement, a global sustainability advocacy group seeking social reformation. A glamorous model as well, quite famous in Israel and blessed with the prestige and comforts of her successful career, she has recently taken a very bold position at which many in her home country and in the Western world might gawk in moral outrage.



She wishes to see her now incarcerated love, Saif al-Islam Gaddafi, son of the infamous, so called “tyrant dictator” Muammar Gaddafi, be removed from his current Libyan rebel captors, who intend to try him for war crimes, and instead brought to the International Criminal Court for his pending trial. No evidence has been given as to these accusations and the ongoing postponement of the trial suggests the opposition might be struggling to manifest such evidence.

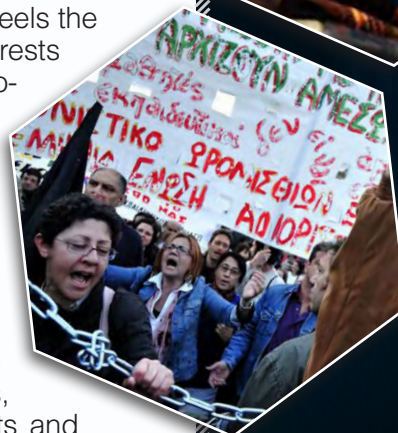
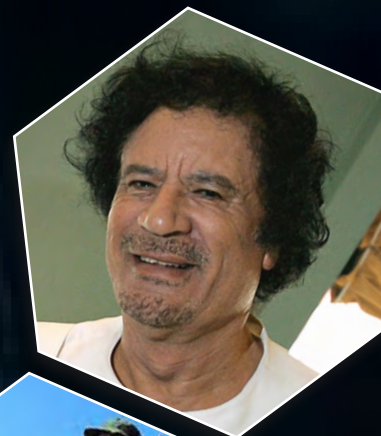


Since the fall of the Gaddafi regime in 2011, some of the now captive Gaddafi family and loyalists face severe charges, many under the most despised of distinctions: crimes against humanity. Saif is currently facing the death penalty in Libya, where he is, most notably, accused of participating in the killing of civilian protesters during last year's Western backed coup d'état against his father. Weinerman's concern is that Saif has no chance of a fair trial in the hands of the new power establishment in Libya and also feels the nature of the Western backed invasion was not for the interests of the Libyan people but rather for geo-political and geo-economic advantage - a criminal act.

British Prime Minister David Cameron's notable public statement: “We must not tolerate this regime using military force against its own people”, was just one of many sound-bites heard from US and UK politicians as they worked with NATO to take out the Gaddafi regime under the guise of a “humanitarian mandate”. The mainstream media describes the Libyan Revolution as an organic rebellion originating from an opposing group of citizens, often categorizing the event as part of the mass protests and revolutions now known as the “Arab Spring” uprisings that affected Tunisia, Egypt and many others. However, a closer look at the rapid dethroning of the Gaddafi regime starts to take a different picture – a picture all too familiar to those who have had the sad fortune of following the history of covert warfare coming from Western powers and their economic interests.

A History Lesson

In the past 70 years, the idea of using the facade of civil uprisings to execute Geo-Economic/Political reforms favourable to Western economic interests has become increasingly common. We know this not only because of the now declassified CIA documents that boast of such measures - such as the overthrow of the democratically elected Iranian leader Mohammad Mosaddegh in 1953 which returned commercial



power to Western oil interests as a response to the unwanted nationalization of Iranian oil fields by Mosaddegh prior - we also have the testimony of whistleblowers, such as famed "Economic Hit-Man" John Perkins, who has admitted in great detail as to his involvement in such affairs in Latin America.

Another little-known yet now declassified example of a CIA-sponsored overthrow for corporate and financial interests was the 1954 coup d'état that ousted President Jacobo Árbenz Guzmán of Guatemala. The United States engineered this for the benefit of the United Fruit Company which had been lobbying the CIA to oust reformist governments in the Republic of Guatemala for years prior to secure its commercial interests. Similar CIA behaviour can also be linked in one variation or another to the overthrows and/or assassinations of Ecuador's Jaime Roldós Aguilera in 1981 due to energy interests; Panama's Omar Torrijos also in 1981, due to conflicts over the Panama Canal (a key conduit for international maritime trade), along with perhaps the most interesting recent example - the failed 2002 coup d'état against President Hugo Chávez in Venezuela.

As detailed by journalist Eva Golinger who obtained top-secret documents from the CIA and State Department through the Freedom of Information Act (FOIA), the United States' Bush administration had prior knowledge of, and was complicit in, the 2002 coup against President Hugo Chávez, and had apparently provided over \$30 million in funding aid to opposition groups to help execute the public uprising against him. Why? Oil interests.

Not to say it is a new thing for CIA to covertly arm rebel forces in other countries as they try to remove the power structure, as can be exemplified from Afghanistan to Cuba to Iraq to Argentina to Honduras to many,

In 2010, Libya ranked 53rd on the Human Development Index (out of 170 U.N. member states), making it a "high human development" country. The U.N. Development Program said Libya had achieved "high human development" in every major index category, including education, empowerment, economy and infrastructure, access to information, civic and community wellbeing, and gender equality.

many other cases – but the recipe for the covert war that doesn't cause public outcry within the invading nation, without serious military commitment, is a special circumstance.

The basic requirement is an initial, ideally organic public rebellion. From there, the task is to fuel the conflict and escalate destabilization, which serves as a cover for covert moves. Public perception can be exploited with the conflict artificially magnified by the media. Then, some type of knee-jerk accusation that draws public sympathy is needed to generate acute disdain for the targeted parties and enable follow through.

For example, before the 1991 invasion of Iraq, a 15-year-old Kuwaiti girl gave public testimony stating she watched Iraqi soldiers "come into the hospital with guns and go into the room where... babies were in incubators. They took the babies out of the incubators, took the incubators, and left the babies on the cold floor to die." This

However, what was not discussed was that this 15-year-old Kuwaiti girl was a member of the Kuwaiti Royal Family. Her father was Saud Nasir al-Sabah, Kuwait's Ambassador to the USA and her entire testimony was a lie. Again, this is public record.

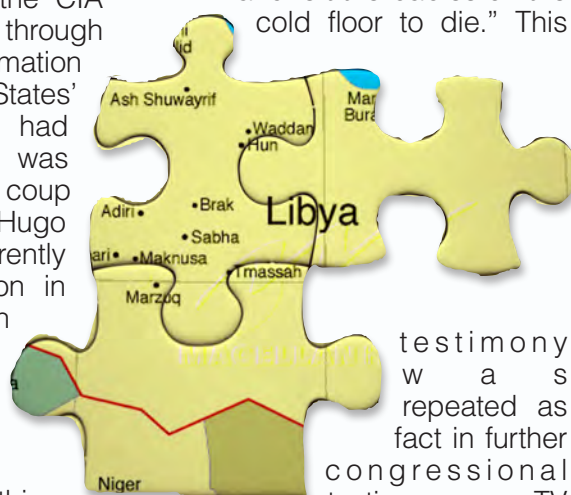
Libya Decoded

So what is the story with Libya? Does it fit any of these profiles? Were the US & UK simply being



good parents and working to altruistically protect humanity from some rogue tyrant or is there something else going on? Is there evidence to show they were complicit in the uprising, exploiting mass sympathy by some event, while holding deep ulterior motives to serve their financial and political interests? Yes. In fact, the event appears to be just about as textbook as the case was with Mosaddegh in 1954 and Chavez in 2002.

First, let's start with the state of affairs. If you are like most Westerners, you have likely never met anyone from Libya, nor do you know anything about the country other than that odd looking man with the funky sunglasses who had been in charge for 40 some years. The idea of autocratic rule is deeply opposed in the West



testimony was repeated as fact in further congressional testimony, on TV and radio shows, at the UN Security Council, and even by then President George H.W. Bush. It had a clearly relevant effect on public opinion and support for the 1991 invasion.

and perhaps that is a legitimate concern given the patterns of history in general. However, let's leave our ideologies aside and ask about the relative state of the culture before the uprising and invasion.

In 2010, Libya ranked 53rd on the Human Development Index (out of 170 U.N. member states), making it a "high human development" country. The U.N. Development Program said Libya had achieved "high human development" in every major index category, including education, empowerment, economy and infrastructure, access to information, civic and community wellbeing, and gender equality. In a 2005 Country Profile Report by the Library of Congress' Federal Research Division, it noted: "In comparison to other states in the Middle East, the health status of the population is relatively good. Childhood immunization is almost universal. The clean water supply has increased, and sanitation has been improved."

As far as accusations of terrorism or weapons of mass destruction, it also stated that: "During the period 1999–2003, Qadhafi, ever the pragmatist, eventually fulfilled all the terms of the UN Security Council Resolutions required to lift the sanctions against Libya. He accepted responsibility for the actions of his officials and agreed to provide financial

compensation to the families of the victims of Pan Am 103. As a result, the UN sanctions were lifted on September 12, 2003. In December 2003, Qadhafi publicly announced that Libya was ridding itself of weapons of mass destruction and ballistic missile development programs, and fully cooperated with the United States, the United Kingdom, the International Atomic Energy Agency (IAEA), and the Organization for the Prohibition of Chemical Weapons. Through these actions and decisions, Qadhafi brought Libya back into the world community."

Any general research on Libya shows that it was improving and stable and while accusations of social oppression and misdeeds might hold true on some level, as with many countries in that region, we need to be honest with ourselves and consider the realistic nature of the circumstance in comparison. If we were to examine all the oppressive regimes the United States and United Kingdom coexist with without objection Libya was far from the worst, and it wasn't until the 2011 uprising that the accusation of Libya using force against its own citizens become a heated claim for intervention.

If the Western powers cared about the humanitarian crisis

both general and oppressive, forces would have taken control of the Sudan long ago, where the genocide and barbarian abuses are almost beyond comprehension, not to mention intervene to end the virtual prison still existing in the West Bank due to the illegal, US sponsored Israeli occupation. This list could go on and on and the bottom line is that the very idea that the West "cares" about the citizenry of any such country to inspire such intervention is enormously naive and completely ignorant of history.

The central "war crime" accusation itself, which gives the appearance that Gaddafi forces just decided to start killing civilian protestors for fun, is void of its true context, which was a response to an armed conflict from rebel forces. Does this justify the death of human beings? Of course not, but this is an issue of circumstance. If an armed militia began to make its way towards the White House, do you have any doubt that once the first shot was fired, the police, military and Secret Service would not hesitate to shoot anyone in their line of fire under such pressure? Again, this justifies nothing in and of itself, but such is the nature of circumstance in the discordant, power-sick zeitgeist we share today and the "crimes against humanity" charge being propagated around the now fallen regime needs a much





the American currency, which remains the sole currency used by global institutions such as the IMF. This gives the US a major economic advantage as they have the ability to run a constant trade deficit because foreign countries need those dollars

Invasion. This is a very serious yet little discussed reality.

With that noted, we shouldn't dismiss the energy interests, even though they may be secondary in importance. The National Oil Corporation, Libya's nationalized oil company, was ranked 25 among the world's Top 100 oil companies, and while its reserves might be minor compared to the reserves of Saudi Arabia, the liberating of previously off-limit business contracts is clearly a positive for the West.

closer examination.

The central charge against Saif al-Islam Gaddafi, who actually didn't hold any political office, is this claim of "civilian murder", which appears as an act of defence, not cold-blooded execution that would define a "war crime". It is estimated that the United States and its allies are responsible for three quarters of a million to a million civilian deaths in Iraq, and likely tens of thousands more during the UN sanctions that crippled the nation for many years prior - yet we see no one on trial here. Let's also not discount the score of civilian deaths achieved by NATO as it bombed Libya for months.

Currency Wars

Have you ever wondered how the United States can operate at 16 trillion dollars in debt and growing? It has the Global Reserve Currency. Of all the macroeconomic factors that favour Western domination in the world today, the fact that the Euro and the US Dollar are used for not only the majority of oil transactions, which in many ways serves as the virtual "backing" of these fiat currencies, many other major goods are priced in Dollars and Euros, requiring most nations to purchase these currencies in order to engage in global trade, maintaining demand.

In fact, approximately two thirds of world trade is done in dollars and two thirds of central banks' currency reserves are held in

to repay their debts to the IMF, to conduct international trade, and to build up their currency reserves. As long as the dollar remains the main international currency, the US can continue consuming more than it produces, as it has been doing for decades now.

Well, guess what? Muammar Gaddafi had been openly advocating the creation of a new currency that would counter the dollar and the euro. He called upon African and Muslim nations to join an alliance that would make this new currency, the "Gold Dinar", their main currency. They would sell oil and other resources to the US and the rest of the world only for gold dinars. If this were to happen, it would have had dramatic effects on US economic hegemony.

In fact, some might remember that Saddam Hussein was pushing for a similar petrodollar shift before the 2003 US

NATO Intervention

The Libyan "rebel" forces that took to the street in February 2011 were depicted by the media and Western political commentary as an unexpected organic uprising mirroring the Arab Spring revolts nearby. Yet, a closer examination reveals a deep premeditation and clear connection to CIA involvement. Former Gaddafi army commander, Khalifa Haftar, who had been living in exile for 20 years essentially next to CIA headquarters in Virginia, with tremendous evidence to indicate ties to the agency, was quickly brought to Libya after the uprising and put into position as commander for the rebel forces. How convenient.

All that was left was a trigger for intervention and it wasn't long before Libya fought back against what could very well have been a mercenary group set in motion to enable a larger mobilization against



Gaddafi. This violence was quickly emphasized and set the stage for the so called “humanitarian intervention” less than 2 weeks after, with “Resolution 1973” from the UN Security Council. Quickly, and semi-covertly, the US began to add more arms to the rebels. Something, again, they have done in so many other cases to secure their interests, such as with the tens of millions of dollars going to anti-Soviet Afghan rebels for the 1980's Afghanistan War.

This is the earmark. The earmark that links dozens of US covert interventions in the past 100 years and there is even evidence the US has been funding opposition groups in Iran, if not many other places in this turbulent world we see rising. It's a great strategy - low budget; mostly hidden from the general public – and completely against international law.

And once the fireworks started with NATO, there was no turning back - another coup d'état success. Today Libya is a fragmented and destabilized terrain. Apparently is it now a “democracy” for whatever that is really worth since it is looking more like another post-war Iraq than anything else and it will likely be a long time before progress is achieved.

Saving Face

Now coming back to our “Love Story”, there is little that can be done now with respect to the irresponsible overthrow of Libya but perhaps a little poetic sensitivity could heal these global wounds in some small way... So let's return to Ms. Weinerman's struggle to save someone dear to her - someone who might be deeply misunderstood – Muammar's son: Saif al-Islam Gaddafi.

Today, she has not only spoken out in praise of Saif's moral character, interest to reform Libya into a true democracy, defiance of his father on many issues regarding needed change and equality; she has also publicly implored Saif's known associate and long-time friend, former British Prime Minister Tony Blair, to intervene. She is also working to petition for his release from the Libyan successors – an effort the reader is encouraged to review and hopefully participate in.

Since that time she has been criticized and even targeted for criminal wrong-doing by political powers in her home country, such as by a member of the National Union Party who wrote to the attorney general that she was involved with a ‘terrorist’ who wanted to ‘destroy the Jewish people’, as reported by The Times of Israel.

A fascinating circumstance indeed. Geo-Politics, warfare and corruption aside, their very relationship challenges some common taboos all too common in the world today. In the story of Romeo and Juliet the tragedy of circumstance rested mostly with a disruption of traditional loyalty to the feuding families. In this story, there is a disruption of loyalty across multiple cultural lines.

First, we have the nationalist disruption: If the state of Israel is against another state and vice versa, the implication is that citizens of that state must also be opposed. Second, we have the religious disruption: Ms. Weinerman of the Jewish faith and Saif of the Muslim faith, which, unlike other combinations, is particularly rare. Third, we have the race disruption, which is a corollary to the nationalist loyalty, and while less relevant today in general, is still notable given the deep racial tension still existing in the Middle East; and fourth we have what we will call the disruption of associated bias which, in this case, is the prima facie assumption that Saif, who, again, never officially held political office and has yet to be named in any documents for such criminal evidence, is still to be associated with the alleged crimes of his father.

That determination, of course, is the role and importance of the fair trial which Ms. Weinerman pursues. This bias of association is a powerful influence of perspective and to expect a fair trial from what is to be, in effect, a court run by the “rebel opposition” in Libya, might be wishful thinking.

Interview

Below is an exclusive interview with Ms. Weinerman:

Question: Please briefly discuss your upbringing, especially given the context of tension in your homeland, Israel; in the Middle East.

“I was born in Tel Aviv to a pianist mother and an engineer father who specializes in the field of renewable energy. I've been acting and modelling since I was a child and as a teenager I already started being socially and politically involved. However, activism wasn't something I picked up at home but was rather my natural response to all the wrongdoings I witnessed growing up. Spending 3 years in South Africa during the apartheid years in the mid 1980's, between the ages of 13-16, shaped the way I view the world today.”

“I was constantly asking questions about the human inequality and neglect that I saw around me, rather than accept it as “natural” or “normal”. I've always been a social activist in Israel with a special interest in human rights, especially around the Israeli-Palestinian conflict. I worked with “B'tselem”- a non-governmental non-profit organization promoting human rights in the occupied territories. I worked in fundraising for “Alon”- an association dedicated to bridging social gaps through education, and am currently working in fundraising for Israeli Flying Aid. It has always been important to me to use my “celebrity” and my connections for a greater cause.”

Question: Please describe your impression and experience with Saif.

“Saif is the best person I've ever known. He's a warm, kind, friendly, open-minded, peaceful, calm and loving man. A real gentleman and pure hearted. He is honest and that's something admirable in a time like ours. Saif's vision was to turn Libya into a modern society and he did the best within his power to help the Libyan people. He brought reforms to his country and had so many more

ideas of reforms to bring about. Saif had an agenda for promoting human rights not only in his country but in the international community as well. He worked on a roadmap for peace in Kashmir, amongst other human rights projects and charities he was involved in. He was the one to convince his father to give up his program for weapons of mass destruction.

“Saif has always been very popular amongst the people of his country, and especially loved by the younger generation there. He used to meet with the people directly in the city square every week and talk to them without the protection of any guards. He was always challenging and even openly criticizing his father's regime. He even set up a free media organization that his father kept shutting down, so he had to keep relocating it, from Libya, to Jordan, to London, etc.

“He was also popular outside his country; he was the one connecting Libya to the west in his efforts to open his country to the world and bring balance and peace to his region. He had a good relationship with the west, especially England, to the extent that he was titled “Europe's darling”, before the west (mainly the US, France and the UK) decided to invade his country for corporate profit. Then, all of a sudden, they started to portray him very differently, in order to manipulate public opinion to legitimize their acts.

“The accusations made against him sound even more unbelievable, when you consider he wasn't even a part of the regime, he had no political or military position in the time of the war. If there were any concrete evidence against him- be sure we would be bombarded with it, brainwashed with it in the mainstream media. It's very convenient for the west to leave him there to silence the facts & hide the evidence. The sad truth is that they turned their back on him once they had taken over the country and its resources and they don't need him anymore.

Question: Please explain the Petition you are pushing and why you feel Saif must be removed from Libya in order to achieve a fair trial?

“Firstly, the underlying meaning of this petition, or every other petition, really, is the people's understanding that we need to empower ourselves, unite and take responsibility for the affairs of our world, because justice will not be served by the powers that be. I think there is a growing understanding that we can't let the super powers lead our world anymore, as we found they are immoral in their deeds. Using the people's ignorance to fool them with cheap propaganda, the powers that be allow themselves, on our behalf (the international community), to harm the innocent & portray their victims as “evil”.

“Specifically, the same Security Council that had passed a resolution allowing the NATO forces to intervene in the Libya conflict has also passed a resolution giving the International Criminal Court a jurisdiction over crimes committed during the conflict. It is obvious that the so-called “justice system” of the current Libyan administration is unable to conduct a fair trial which will ensure basic human rights and due process.

“Therefore, in accordance with its resolution & the importance of true justice, the security council

& every member state within it has a moral interest, responsibility, and obligation to bring Saif to justice before the ICC, where he can receive a fair trial before a competent court. Moreover, the fact that Saif was captured during an armed conflict makes him a prisoner of war, and therefore he is entitled to the full legal protection declared by the Geneva Convention, which includes visits from the Red Cross or the Red Crescent representatives, but he has been held incommunicado and no information about his captive conditions or his health condition has been provided.

“We can't go on looking the other way or shutting our mouths about these violations of human rights sponsored by USA, France, England and their corporations. Somebody must be gaining something out of all of this... and those ones should be the ones to be put on trial.”

Question: Do you feel Tony Blair is avoiding intervention due to his need to preserve his political persona? If you had anything to say to him directly, in person, what would it be?

“It's no secret that Saif and Mr. Blair were good friends, have worked together and Mr. Blair has even helped Saif with his PHD. I do believe Mr. Blair is not doing or saying anything not because he thinks Saif deserves anything he's been going through, or that he should have an unfair trial before an incompetent court. But that his silence and his inactivity about the injustice that Saif is dealing with comes from fear of losing his own position and more than that, he is probably threatened that if he says or does anything about the matter, he will be punished by people and entities that don't want anything done to change this horrible policy of silencing the truth about western corporate crime in the international arena.



Tony Blair

“Mr. Blair and other high-profile influential politicians and corporate businessmen that were good friends with Saif, have now renounced him as it's no longer in their interest, they now have free access to all they needed from him. If I was to meet Mr. Blair, I would ask him if everything that he has, position-wise, materialistic-wise, is worth giving up the values of being human, and that means being loyal to your friends, not letting them be victims of propaganda intended to wash off other people's sins. As a Christian man he should help his friend and speak the truth.

“All we have in our lives is our word, and a man who doesn't live telling the truth, speaking out what he knows, has nothing, for our property in this life is nothing. Not even our bodies. When we leave this world we take nothing with us, and the only thing that will be left of us is our good words, good deeds and the influence they will keep on making long after we are gone.”

Question: In the course of this mission you have reached out to The Zeitgeist Movement, a Global Sustainability Advocacy group interested in declaring all the world's resources as common heritage for all the world's people and works with new economic ideas to unify humanity and improve conditions. Why do you feel this audience might well understand your circumstance? Do you identify with such broad cultural changes?

“Of course. The people who are now in control of the world's wealth, and therefore control the rest of the



population (through the use of the monetary system and the state system) are being cruel & thoughtless in their actions, seeing the entire world as their own playground /back yard. They do not show any regard to the way our economy is destroying our planet, as if we have more than one, or as if there would be no one left to live here after them. However, I do not accuse them of being “evil” but I see them as victims of their own disproportionate power.

“I agree with The Zeitgeist Movement's understanding that a new system that will allow us a more open-source, “flat” way of managing our affairs on this planet, is the only way to build a more humane and environmentally responsible society, and I think that now, for the first time in history, we have the technology that can enable us to do just that.”

Hope

In many ways, what is done is done and Libya will never be the same. We can speculate upon its future and even try to be optimistic that it will recover and maybe even progress to a level never known before. However, that doesn't change history and the means never justify the end. Saif al-Islam Gaddafi is still in prison and awaiting a trial that may decide if he is to live or die. He also sits in a symbolic position in many ways as the corruption inherent to the Libyan

invasion has yet to find an end and the outcome of Saif sets the tone for what we as a people are willing to tolerate within the criminal meltdown of power abuse so common on the tragic global stage today.

Orly Weinerman's plead works on many levels. We can't return the many lives taken when NATO blanketed Libya with bombs, nor can we bring Colonel Muammar Gaddafi back so he can face a trial to determine the legitimacy of the accusations against him. However, we can reduce ourselves to the recognition of one shared mortal reality and that is that we are all human and our personal relationships can transcend the circumstantial baggage and cultural victimizations that seem to divide us in the broad view. The saving of just one life in this play might be the key to shift it from tragedy to redemption.

What if we as a species were able elevate ourselves outside of the ongoing Tragedy of Circumstance through which we all too often find our values and loyalties? What if we were to show compassion for a man who just might have been trying to change an out-dated regime from the inside, but was not given enough time to do so and was taken down prematurely by a criminal mafia that has no concern for the wellbeing of the state of Libya?

What if our loyalist illusions of “peace keeping”, “protecting civilians”, and other clearly hypocritical and false claims used to justify the overtaking of other societies recently by the Western powers, were seen for what they were? How would that affect your sense of responsibility?

And most broadly, what if our loyalty to retribution and the reciprocated hatred of each other's misdeeds was relinquished and replaced by a more rational understanding of how we are all Victims of Circumstance - Victims of Culture - involved in a seemingly never-ending play of tragic proportions where we harm those who harm us or our loyalties – all justified under the guise of an ideological perversion of “justice” itself?

All human actions are consequences of conditions, past or present, and it is only when we shed the primitive, narrow loyalties to our ancient traditions of nation, religion, race and circumstance that we will likely see that the only loyalty we can possibly have is to truth and each other - as one species, sharing one habitat.

References

If you wish to support Ms. Weinerman's mission to protect another human being from this Tragedy of Circumstance, creating instead a Triumph of Dignity, here is her petition:

<http://www.thepetitionsite.com/1/surrender-saif-al-islam-gaddafi-to-the-icc>



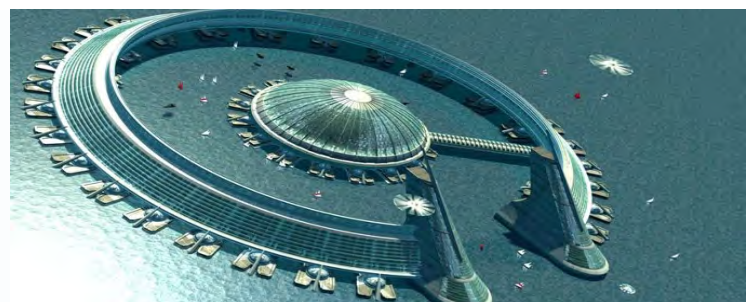
DEBUNKING THE VENUS PROJECT



By David Zwolski

What you are reading here is not just any rebuttal written by some teenage schmuck who has just seen The Venus Project website. I am neither a disgruntled former Venus Project fanatic nor a troll, and I am certainly not a neoclassical economist who is outraged by what he has seen of the Venus Project proposals and out to debunk any non-conventional economic thought. What you will read here is a rebuttal from a former member of The Venus Project – and not just an ordinary one.

I have spoken for the Venus Project on Triple M radio and I have spoken against Venus Project critics on Skid Row Radio. I have given speeches and lectures to audiences of varying sizes and backgrounds about what the Venus Project proposes. I am a former devoted member of the Venus Project, and have met and spoken with its founder and Guru – Jacque Fresco. In 2010 I organized, with the help of a team of fellow supporters, a national tour for the Venus Project in Australia that spanned 4 major cities. I was responsible for organising the campaign, graphics and webpage development, as well as recruiting volunteers in Sydney and other 3 cities for the tour. The event campaign was a huge success that sold out all 1,500 tickets in all 4 cities with enough requests to repeat the event in Melbourne. I continued to advocate the Venus Project until about January this year, and I am well, shall I say, “qualified”, if you will, to comment on its flaws.



A little background info

First – let me explain what the Venus Project is – in their own words:

“The Venus Project proposes a system called a Resource-Based Economy, in which automation and technology would be intelligently integrated into an overall holistic socio-economic design where the primary function would be to maximize the quality of life rather than profits. This project also introduces a set of workable and practical values.”

“This is in perfect accord with the spiritual aspects and ideals found in most religions throughout the world. What sets the Venus Project apart, however, is that it proposes to translate these ideals into a working reality.”

Simply put, the Venus Project aims to bring about a peaceful moneyless society in which



the scientific method of inquiry is applied to every aspect of life – including governance, economics, and culture. A moneyless society is deemed equitable in its facilitation of access to the world's resources, which are held to be the common heritage of all humanity. Technological automation is believed to be the best method for bringing about such a society because it facilitates a level of efficiency that reduces the material throughput of natural resources, whilst generating abundance for social stability. Cybernation is to be employed wherever possible for decision-making, with the assumption that automated technologies are not fallible in the way that humans are, thus avoiding the all-too human errors of the political system.

To achieve this, the Venus Project has a 3 stage plan. The first stage – to build their research centre – is complete. The second step is to release a major motion picture that would reveal how the Venus Project would work. The third and final stage includes building a test-city with a theme park attached. Initially the building of the theme park was slated as stage 4 in the plan, but just a few months ago this plan was merged with stage 3^[1] – the test city. The initial plan to build a theme park after completing the construction of a test-city, and all the subsequent research, seemed somewhat odd as one would naturally expect the next stage to involve implementation of what has been learned. Keep this point in the back of your mind as implementation still does not feature in the plan, and a theme park is now merged into the test-city stage, blurring the boundaries.

The Venus Project has been in existence for over 37 years. The project has produced large numbers of very attractive models and concepts of how the future may look, as well as drawings and much,

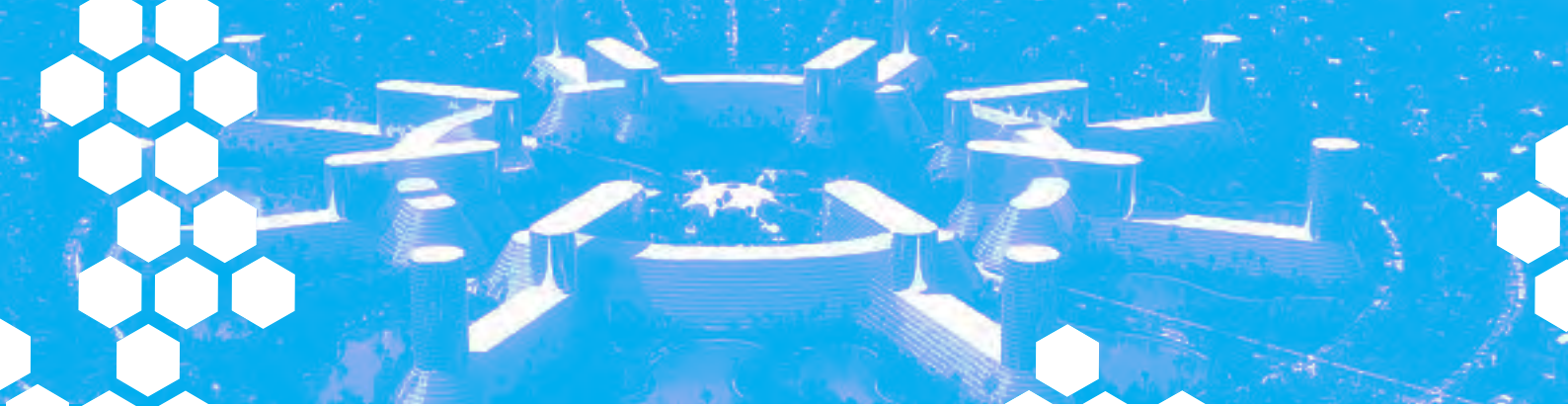
much more media, including films, documentaries, audio-lectures, books etc. Some of these products are available free of charge, and many of these products can be bought in their online store; you can even buy your very own “I love TVP” coffee mug.



Relationship to the Zeitgeist Movement

The Venus Project was featured heavily in film-maker Peter Joseph's second and third documentary movies, Zeitgeist Addendum and Zeitgeist Moving Forward. The Zeitgeist Movement – an organisation founded by Peter Joseph following the success of Zeitgeist Addendum in 2008 and subsequent calls for a global people's movement – quickly allied with the Venus Project as the project's “activist arm”. That union did not last long, to the detriment of the Zeitgeist Movement.

Soon after Joseph's third film Zeitgeist Moving Forward was released – in which there was a full 30



minute section dedicated to the Venus Project – Fresco's co-founder Roxanne Meadows announced their intention to terminate the project's affiliation with the Zeitgeist Movement, and that they were thankful for all the help that Zeitgeist Movement volunteers had provided to further their cause. This action placed the Zeitgeist Movement in limbo-land – the position of advocating an organization that they were no longer affiliated with was one irreconcilable for many volunteers, particularly as Peter Joseph's documentary films, heavily reliant on Venus Project material, were the mainstay of the Movement's educational materials. With Joseph's films freely available online via multiple sources there was no easy way of updating the material in order to avoid misunderstandings regarding the relationship between the Zeitgeist Movement and the Venus Project.

Thus the Zeitgeist Movement and Peter Joseph were forced into the position of continuing to provide free publicity for an organization that had utilized their human resources for a period, gained a great deal of exposure via the success of the Movement, and even gathered donations via the Movement's supporters – then gone on to denounce both the Movement and its founder.



The approach of a one-man think-tank

The Venus Project has some great ideas overall, and it definitely enhanced my understanding of potential solutions to the world's issues. But, to put it hypothetically, if had the choice, I would not vote for the Venus Project based just on what they say – in

the same way that I agree to a large extent with a lot what Barack Obama promised during his 2008 presidential campaign. Words alone are not sufficient evidence of intentions.

Unfortunately there is very little that the Venus Project does aside from talk. Their work solely revolves around producing materials that further the ideas of the Venus Project. You won't hear of the Venus Project partnering with any cause or organization that feeds or educates people, or that develops technologies that solve human problems. You won't see any of the own life-saving solutions and designs they claim to have produced released under a not-for-profit licence such as Creative Commons so that they could be utilized by humanitarian organizations. The Venus Project have even tried to copyright the phrase Resource-Based Economy in an effort to prohibit the use of the phrase by anyone not fully aligned with the Project's understanding of it. Thankfully the attempt was unsuccessful, meaning that other organizations making use of the phrase are able to continue their work without having to re-brand their identity and amend all of their literature.

Jacque Fresco is the one-man think-tank for the Venus Project. The designs, drawings, and all of the proposed ideas are his alone, which renders him somewhat of a cyber-guru. Many other wise people have left an enduring legacy of their work, only some of whom have become famous because of it, such as Stephen Hawking, Albert Einstein, and Marie Curie, to throw out a few household names. What separates Fresco from this eminent group is that he does not cite scientific sources to support his conclusions. He has not produced a single study of his own to back up his futuristic ideas for humanity. Despite his claims that a full-scale survey of the Earth's resources is a vital first step toward a Resource-Based Economy Fresco has made no steps toward establishing a task-force for this purpose while rejecting already existing surveys data. Proposals for the development of technologies such as space-shuttle personal vehicles, buildings build from memory-metal, volcanic heat harnessed as a thermal-power plant, full-automation of all labour, cybernated decision making, etc, have all remained unresearched, while new designs with the embedded

assumption that these technologies are possible continue to be produced by the Project. It is simply hypocritical for anyone who advocates science as a way of life to fail to apply the scientific method of inquiry to their proposals.

After 37 years of existence a think-tank cited by many as “ingenious” may reasonably be expected to yield results a little more scientifically convincing than their output of a single unreferenced book, a novel, 2 feature movies and merchandise bearing the slogan “I love TVP”. Fresco is undoubtedly wise, but it requires a significant imbalance of ego to claim how the future will look, and how it could or should work, without a shred of empirical evidence generated by the Project itself to support its own projections.

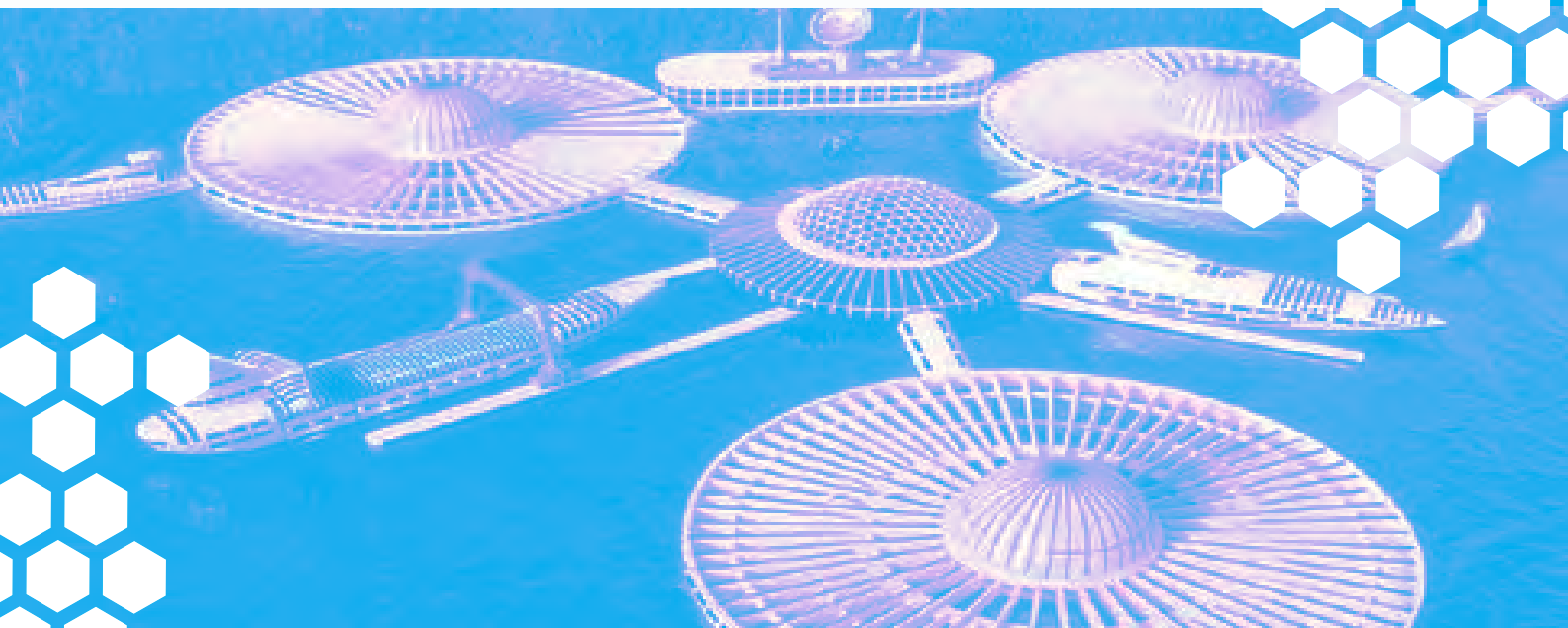
more positive studies^[2] predicts that the whole planet will have to shift to a strict vegetarian diet in order to sustain its projected population of 9 billion by 2050. While I am all for managing our resources wisely and applying our latest sustainable technology – who wouldn't be? – the first thing that should be done, from an ethical standpoint, is to find ways to feed and clothe the poorest, most disadvantaged people in the world at present. Once a feasible plan to escape poverty is in existence, then we may be able to talk seriously about sustaining further population increases.

However, the Venus Project argues that the first step in bringing about a peaceful world free from suffering is the concept of a Resource-Based Economy, and that we should first concern ourselves with its design by supporting their 3 step plan (including the theme park, but absent plans for implementation). I'm sure the 10,000 children who die from starvation each day would be very happy to hear that the Venus Project has built them a theme park... while they are starving.

I am not saying that the Venus Project first needs to send food-aid packages to Sudan before they even consider some of their very ambitious ideas; my criticism is directed at their order of priorities. If the Venus Project were to behave empathically toward all the people of the world, with ethics-based priorities, somewhere in the plan would surely be included the engineering of (perhaps even cybernated) food production, water-filtration technologies, or the provision of basic healthcare and education. Not a theme park.

A theme-park for the hungry

The growth paradigm makes an unsettling appearance in much of Fresco's work, with designs for building cities in the sea or underwater, even in the sky – there are seemingly no limits to his imagination – being posited as ways to accommodate an ever-growing population. As lovely as these ideas may sound, a painful parallel is clearly drawn between the projection of the Venus Project and our current economic growth paradigm, unsustainable to its core. Fresco is bold in stating that the earth can sustain double the population we have at present – provided we manage our resources wisely and apply the most advanced technologies. Unfortunately studies conducted so far illustrate a far grimmer future for us. One of the





Technological Cornucopia

Whilst a member, I assumed that many of the Venus Project's ideas were possible because I had heard about them from a person who seemed so smart and so wise, to the extent that he is certainly a man before his time. This appeal to authority fallacy^[4] is something that many Venus Project supporters suffer from, subtle in that no one screams and shouts when someone starts to question these things, yet once such a "challenge to authority" arises it is usually greeted with the response that "one day it will be technologically possible" to do X; which is, more or less, how Fresco himself responds to such questioning. This leads us to a very important part of the Venus Project belief system – a Technological Cornucopia.

Technological Cornucopia is the belief that technology can provide for all our needs, and solve... well... everything from climate change to peak oil to infinitely substituting finite resources. The Technological Cornucopian concept is to the Venus Project as the virgin birth is to Christianity – you have to believe it, otherwise the whole thing just does not make sense. What Technological Cornucopians hold is a set of beliefs, not a scientific position.

Technotopian dreams

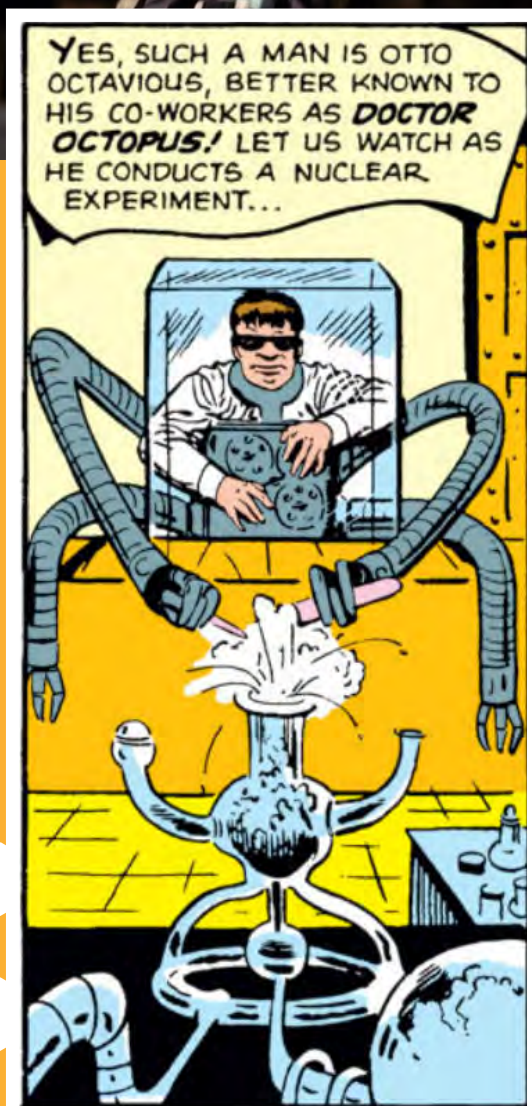
One very impressive idea for humankind is to build buildings with memory-metal, or shape-memory alloy^[5] – a compound material which could theoretically enable people to buy a new home from a supermarket in the form of a metal cubicle – say 10 cubic meters – and, once delivered, and a little bit of heat applies, the house would unpack from the cubicle into its

full-size. Great idea. But memory-metal is made of titanium, and currently there is only 690 million^[6] tons of titanium left – vastly less than would be needed to serve the needs of a country, much less the whole planet. On top of that we currently use 6 million tons of titanium per year as it is – mainly for paints and electronic gadgets. Building houses out of titanium would be like building houses out of silver – a bizarrely extravagant waste of a rare non-renewable resource.

Fresco envisions a world of abundance for everyone, and of everything. That sounds very lovely, and if it were possible I have no doubt that it would solve a lot of social problems. I'm quite sure that Fresco does not mean that the finite resources existing on our planet can be somehow made abundant, but he does speak of creating an abundance of resources for all human needs. What, then, are those needs? That's a hard question to answer, but as a former member I can say that the Venus Project does not think of human needs in the sense of Maslow's Pyramid, but in the context of current standards of living. Can the "needs" of our current standard of living be provided in abundance? In a word: no.

You can't talk about the notion of abundance without making reference to Jevons' paradox^[6]. In a nutshell, Jevons observed that rate at which resources are consumed increases with the level of availability. This means that in making a process more efficient one makes its product more available, hence increasing the rate of material throughput and consumption. Increased production and efficiency bears the unfortunate side-effect of overuse – an abuse of the abundance generated – leading to more rapid depletion of finite resources, and depletion of renewable resources at a rate higher than the rate of renewal. This is an important point to consider, since in Fresco's visions for the future, everything will be supplied in abundance, and standards of living will be so much better that even the ultra-rich will be compelled to transition to a Resource-Based Economy. Thus, if you take into consideration Jevons' paradox, and the notion of abundance – Fresco's vision is stuck in a catch-22 scenario in which the notion of abundance, touted as humanity's saviour, may turn out to precipitate its more rapid demise.

Although living standards do not only concern matters of energy usage, it is beyond the scope of this article to give attention to the full range; therefore attention will be given to our population's energy needs, a major factor in standard of living – fundamental to the level of technological progress we have thus far attained. The Jevon's Paradox is not where the energy problem ends. 86.4% of the world's energy comes from non-renewable resources, the three major sources being coal, oil and natural gas. All three of these resources entail difficult extraction processes which are prone to accidents that can lead to catastrophic damage, not to mention the production and usage that causes high levels of pollution and greenhouse gas emissions. There are two reasons why we use them:



they are cheap; and there is no easily available alternative for which we currently have the technology to power the planet with needs defined as they are at present. The Venus Project's solution to transition to 100% renewable energy is spot on – who in their right mind could disagree with this? There is a catch though – the Venus Project does not explain how we are supposed to transition to the use of

100% renewable energy sources – globally. With a lack of viable transition plan being a key reason why we are stuck with 86.4% non-renewables in the first place and the Venus Project failing to provide such a plan, there is a clear absence of evidence to support Fresco's assertions.

Organizations such as Beyond Zero Emissions do, however, attempt to present a 100% renewable transition plan, begging the question: why not simply partner up with Beyond Zero Emissions, pool skills and resources, and promote the concept in a similar manner. As the trajectory of our energy consumption indicates, our energy requirements double every 35

years^[7] – rendering the transition to 100% renewables no easy feat. With this in mind it is difficult to have faith that any plan presented based on current needs projection will be sufficient.

Vague Venus

The Venus Project does not explain in detail how their proposals are supposed to actually work. You will never hear Fresco explain how waste management works in his Venus cities, or how healthcare is provided, or the basis on which absolutely scarce resources – such as rare earth metals – would be allocated. This is a point for which the Venus Project was criticized during their world lecture tour; Fresco was unable provide a straight answer on these matters. Instead Fresco encourages his audience to rely on a faith in a Technological Cornucopia. This pattern is mimicked to perfection by other Venus Project representatives, who are not engaged in research or design, but in promotion of the Projects assertions.

The new Dr Octopus?

Dr Octavius Octopus – a cartoon figure from Marvel comics – is presented as a sympathetic and caring scientist who, through his research, has found a way to create an abundance of fusion-based energy. His effort to harness the energy has spiralled out of control and, in effect, catastrophically failed, yet Octavius presses on though criminal means to rebuild and refinance his mad experiment.

As psychologist and engineer Jack Catran notes^[8]:

“There are many futurists, “geniuses”, and self-styled seers in our midst who, upon careful examination, turn out to be disappointingly commercial and exploitive.

Unfortunately The Venus Project is no different here.



REVISED

The most recent example of their exploitation of their supporters was their pocketing of 113 thousand dollars of donations that were donated to further “step 2” of their flawless plan – the release of a major motion picture^[9]. The money was originally intended for a professional scriptwriter for this movie, and donations were solicited under this pretext. Initially the target was set at one million dollars, and later reduced to \$100,000. Despite going significantly above target in donations received, the Venus Project then announced that they now plan write the script themselves. To make a fair comparison, this is akin to donating \$100,000 to a specific charity campaign, and then seeing the money diverted from that campaign – the reason you saw merit in making the donation in the first place – into an unknown and unannounced alternative venture.

Another one of the Venus Project's amazing financial stunts was the world tour which I organized, as an unpaid volunteer, the Australian leg. I was pleasantly surprised when the Venus Project insisted on lowering the ticket price to \$30 from proposed \$40, and the Australian tour sold out in the 4 major cities, netting upwards of \$30,000 – after expenses, of which only 1 thousand was given to the Australian chapter in order to further promote the Venus Project. The Venus Project Tour took place in 18 countries, totalling more than 20 presentations^[10]. I do not know the total net earnings, but soon after the world tour, the Venus Project decided to take their property in Venus, Florida – a property comprising 10 buildings in which only Jaque Fresco and Roxanne Meadows live; the property which doubles as their research centre – off the market. This action indicates that the Project was no longer in the financial trouble that they had been in prior to 2010, and, as my partial intention in hosting the Venus Project in Australia was to provide some assistance for the Project to continue, I saw this as a positive result.

The Venus Project encourages people to visit them in Venus, Florida, a tour in which anyone can participate – as long as they can afford the \$200 fee, a somewhat ironically high fee for an organization that promotes a non-monetary economy. There is also the shop on their website through which the Project generates income – a standard for any major non-profit these days.

While everyone understands that you can't do much completely without money these days, there are organizations that do their best to minimize expenses in order to use money as little as possible – such as the Post Growth Institute's global Free Money Day event, held for only \$100^[11].

Of course any organisation will need to employ paid staff if they are expected to work full-time for the cause. The Venus Project, however, is in a much more advantageous position than most non-profits. They own their land which serves as a research centre, home, and generator of revenue. I am confident that, considering the money that they are making, the Venus Project can lower at least their cost of living to close to zero by ... well... walking their self-sustainable non-monetary talk.

For the money earned from the global lecture tour, or pocketed from the movie, it would be possible to power their whole research centre with solar panels, eliminating dependence on external power supplies and exiting the billing cycle. It would also be possible to grow at least some of their food the land they own, jazzing up the garden with high-tech gadgets that fit their proposals – perhaps functioning to test some of their theories. They could even afford to buy an electric car and reduce their level of emissions, never needing to rely on petrol from the pump again, powering all necessary journeys from their self-sufficient solar set-up^[12]. By doing all of these things – well within the reach of their budget – the Venus Project could lower their expenses to a little casual supermarket shopping and land rates, leaving the rest for testing their theories.

If they were to do all of the above, wouldn't they be a step closer to their proposed moneyless solution? Wouldn't the Venus Project research centre then be more than just a place with fancy Jetsons domes, but also a working blueprint for how your life and home can be converted to the ideals of a

Resource-Based Economy? Wouldn't it be the first community that functions as both a non-monetary microcosm of society and as a testing bed for their proposals? Wouldn't this appear to be a minimum level of commitment for anyone expecting to be taken seriously for their grand plans to fundamentally alter the way the world works? Likely many people – including ardent supporters – think that this is exactly how the Venus Project does function.

The Venus Project revised:

I must admit that when I met Roxanne Meadows I met an unusually shy and loving personality, someone who does truly care about people and believes in what she does. She and Jacque Fresco are very giving and very approachable people. In contrast to the impression that this article may give you, Fresco really does seem to believe in what he does. In his mind is not a scammer; he is an objective scientific mind, and would immediately counter the notion that his work revolves around a set of beliefs rather than scientifically-gleaned understandings. He sees himself as an aging man on a tireless and unending quest that just may result in ultimately saving our species.

However, if you were to ask me now what the Venus Project is, my answer would be as follows:

The Venus Project is a theme park that serves as a home for its founders, Jacque Fresco and Roxanne Meadows. The theme park is their sole means of generating income, and has attracted a religious-like following and unquestioned funding from its followers due to the Project advocating nothing less than redesigning society. That proposed new society is based on rational and sensible ideas that have evolved to utopian proportions, rationalized by a belief in a Technological Cornucopia. Unwittingly and unconsciously, Jacque Fresco has become the monetary-motivated villain that he and his fans truly believe he advocates against.

There aren't any bad people in this world. Every villain and every hero do what they do because they think it is the right thing to do. And it's hard to tell one from the other if you base your judgement of an individual solely on what that person says. But rest well-assured that a person does mean business if they embody the change they wish to see.

So what is your solution?

Venus Project fans, if presented with evidence against the Venus Project, or if they simply cannot argue against the point presented, may reply condescendingly with something to the effect of: "So what is your solution?" So let me answer exactly that question in brief:

Well, to the surprise of the reader I still advocate a Resource-Based Economy – with specific emphasis on the notion that the scientific method of inquiry should be at the forefront of decision-making. The difference for me now is that I actually want to apply the scientific method to my own thinking, instead of drawing conclusions and then aiming to validate them.

Useful links

Previous TVP 4 stage plan - <http://web.archive.org/web/20110103001425/>

Current TVP plan - www.thevenusproject.com/the-venus-project-introduction/aims-proposals

Food and population growth study - <http://www.guardian.co.uk/global-development/2012/aug/26/food-shortages-world-vegetarianism>

Appeal To Authority - http://en.wikipedia.org/wiki/Appeal_to_authority

Memory Metal Reference - http://en.wikipedia.org/wiki/Shape-memory_alloy

World mineral Survey - <http://minerals.usgs.gov/minerals/pubs/commodity/titanium/mcs-2012-timin.pdf>

Jevons Paradox - http://en.wikipedia.org/wiki/Jevons_paradox

Energy Consumption predictions study - <http://timeforchange.org/prediction-of-energy-consumption>

TVP pockets donations - <http://www.blogtalkradio.com/zmglobal/2012/10/03/tzm-global-radio-3rd-oct-2012--host-bakari-pace>

Electric motorcycles - <http://www.zeromotorcycles.com/>

THE FLAWED PARADIGMS OF ECONOMICS & SUSTAINABLE DEVELOPMENT

By Richard Sanders

Adapted from Sanders. R., 2012, The Flawed Paradigms of Economics and Sustainable Development, World Economics Association Conference: Sustainability - Missing points in the development dialogue Sept-Oct 2012.

INFO ARTICLE

The sustainable development paradigm has failed. Two internationally agreed criteria for a sustainable human presence on the planet were proclaimed by the World Commission on Environment and Development in 1987, yet we have still not taken sufficient steps to meet them. The first criterion, of intergenerational equity – which requires humanity to live within safe ecological limits – has been consistently breached by the acceleration of ecological overshoot. The second criterion, of intra-generational equity is made a mockery of by the ever-widening gap between the wealthy and the poverty-stricken.

Despite these failures the sustainable development paradigm remains humanity's only response to the rapidly converging global crises that threaten the very survival of human civilization. Climate change; sea level rise; acidification; the sixth major extinction event; the peaking of oil and other key resources; loss of soils, fresh water supplies, forests and fisheries; ongoing poverty and inequity; and, most recently, the global financial crisis – all of these threats result largely from our development paradigm in which humanity is running the planet as if it were a business in liquidation.



The Fatal Flaw

The fatal flaw with the sustainable development paradigm is the failure to understand the fundamental contradiction between ecological and economic imperatives. Instead, it has been argued that it is possible to live within ecological limits while relying on economic growth to propel development objectives; thus the sustainability discourse has been largely subsumed into the economic paradigm through the 'sustainable development' construct.

Despite the promise of economics to allocate scarce resources in order to maximise the welfare of society the evidence indicates that economics has failed its promise to humanity in at least two ways: As if we needed

1. Our planet's scarce resources are massively over-allocated to the global growth economy, resulting in ecological overshoot.

2. Planetary resources are massively under-allocated to the vast majority of humanity who live in poverty, yet massively over-allocated to the wealthy minority of humanity.

to make matters worse the global financial system is in a precarious state – with the potential collapse likely to propel the world into a state of chaos in which supply lines of essentials cease to flow almost immediately, leading to potentially life-threatening consequences for much of humanity.

Understanding and addressing this failure of economics is arguably the most important problem that humanity has to solve if economic, social and ecological collapse is to be avoided, and the human enterprise is to be viable into the indefinite future.

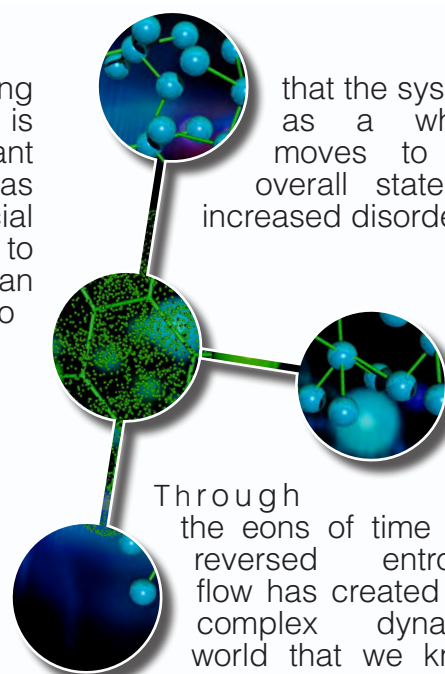
How the World Works Ecologically

The natural order of the universe has it that energy and matter dissipate, run down, break down or cool down of their own accord. This fundamental law of the universe is known as the 2nd Law of Thermodynamics – from order into chaos, and the entropy, or disorder, of the universe is understood to be increasing.

About 3.8 billion years ago something remarkable happened on Earth: A self-catalyzing loop of chemical reactions started somewhere in the ocean, drawing energy and matter from the surrounding environment to become the first spark of life. This spark was the distant ancestor of every species of living thing that has ever existed and evolved into the web of life on Earth.

Life appeared to reverse the entropic flow of the universe, thus breaking the 2nd Law of Thermodynamics, by creating order out of chaos – taking dissipated matter and energy from the environment, and concentrating, organizing and structuring it into living organisms. But life does not actually defy the 2nd Law. What happens is that a localized pool of order is created with the side-effect of even greater disorder in the surrounding environment, meaning

that the system as a whole moves to an overall state of increased disorder.



Through the eons of time this reversed entropic flow has created the complex dynamic world that we know today, including its atmosphere, soils and the web of life. Solar energy is captured by plants and a fraction of that energy cascades into the herbivores that eat the plants, and in turn a fraction of that energy cascades into the carnivores that eat the herbivores. Woven together, these organisms make up ecosystems that are maintained by the solar energy cascading and dissipating through them.

Without life, the Earth would be much like Mars. Life has transformed the Earth's early atmosphere of methane, ammonia and water vapour to the current mix of nitrogen and oxygen with traces of greenhouse gases that keep the planet some 30 degrees warmer than it would otherwise be. Billions of tons of matter that make up the biogeochemical cycles of the planet continually flow through the web of life and



keep it going. However, there is a safe operating space that this system operates within, and recent research shows that humanity is exceeding some of the biophysical boundaries that define this space.

Economics – How Societies Organise to Obtain Low Entropy

In order to survive, each animal species obtains low entropy matter and energy from its supporting environment, an activity that can be thought of as its economic activity. For most species, the evolutionary wisdom of how to do this is imprinted in their genes, although humans also rely largely on the transmission of knowledge across generations – an adaptive advantage for our survival. Innovations such as the control of fire, tools, clothing and shelter have allowed humans, originally a tropical animal, to occupy some of the coldest regions of the planet.

Each culture develops its worldview or mythology through which the organization of its social and economic systems is passed from one generation to the next. But just as a culture's worldview is its primary means of survival, it can also lead to its demise if it manifests behaviours at odds with how the world works ecologically.

The ability to conceptualise and to transmit learned knowledge across generations has enabled humans to invent their way around nature's limits or negative feedback loops. This is humanity's Achilles Heel in that it can allow humans to overstep the carrying capacity of the supporting environment temporarily, and if this goes far enough before being brought in check it could destabilize the whole web of life.

In the course of the human evolutionary journey, the mode of economic organisation has evolved from hunting and gathering to agriculture to industrial to financial. During the hunter/gatherer period human populations ebbed and flowed, much like other species, in response to the availability of food in their surrounding environments. In times of increased scarcity either their numbers declined or they migrated to greener pastures.

About 10,000 years ago a new mode of organization emerged – agriculture. Agriculture heralded the beginning of settlement and civilization. While hunting and gathering resulted in fairly minimal ecological impacts, agriculture involved quite significant interventions in, and disruptions of, ecological processes and systems. Over 20 civilizations are reported to have collapsed over the past 10,000 years, very often as a result of agriculture undermining itself and the surrounding ecosystems. In

many cases agriculture has degraded the landscape through salinization, as in the case of the 'fertile crescent' cradle of civilization surrounding the Tigris and Euphrates rivers; soil and nutrient loss, as in the case of overproduction in the 'granary of Rome' in northern Africa; and denudation of the surrounding landscape, as with the surrounds of the eastern Mediterranean. While significant, these collapses were fairly localized and the civilization in question either migrated to be absorbed elsewhere, or it disappeared if there was nowhere else to go.

The most profound shift in how humanity organized itself began a little over two centuries ago. Depending on the perspective, this shift is known as the Industrial Revolution, the Great Transformation, the Economic Revolution, or the Ecological Transition.

The Great Transformation was the transition from a society where people met their needs through social relations to an economy where people met their needs through economic relations. This transformation was characterized by events such as the enclosure of the commons, which forced people to earn money in order to meet their needs.

The Economic Revolution saw the emergence of the market system of resource allocation. As Heilbroner explains, until the seventeenth century, the market system could not even be conceived "for the



thoroughly sound reason that Land, Labor, and Capital – the basic agents of production – did not yet exist”.

The Ecological Transition saw a leap from the use of muscle-power alone to the unleashing of unimaginably vast sources of fossilized energy. Without this vast

a disproportionately greater per capita flow of resources to sustain that greater level of complexity. With the collapse of any ecological subsystem characterized by a return to increased simplicity and resilience simplicity may prove a key criterion in the design of a sustainable society.



The sustainable flow of our natural income was passed in the 1980s, and since then the only way to maintain it is by liquidating the stocks of natural capital, thus reaching a rate of consumption higher than the rate of regeneration. Using the analogy of a factory for production, humanity's exponentially growing demand for low entropy reached the point in the 1980s whereby we started to dismantle the factory itself in the quest for more.

source of energy it would not have been possible for humanity to transform the face of the planet in the ecologically unsustainable way it has. Indeed, it would not even be physically possible for the human population to grow to the present 7 billion. At least 2.5 billion of those alive today could simply not exist without the doubling of the planet's nitrogen enabled by the production of nitrogen fertilisers from fossil fuels as there is simply not enough biologically available nitrogen in the natural cycle to make the protein of more than 4 billion people.

The human capacity to invent a way around nature's limits is central to the sustainability story for it allows humans to temporarily far exceed the carrying capacity of their landbase. Humanity's apparent strategy for getting around nature's limits is to move to ever higher levels of social and technological complexity and increased food production. The problem with this strategy is that each increase in complexity requires

Stocks and Flows

Over the eons of time the flow of low entropy has slowly accumulated into two kinds of stocks: non-living, non-renewable stocks such as fossil fuels and mineral deposits; and, the living, renewable stocks such as soils, forests, fisheries and ecosystems that generate the low entropy flows such as wood, fish, fresh water, air, climate, and other ecosystem services on which humanity depends for its existence. In economic language these stocks can be thought of as natural capital, and the flows as income.



The Sustainability Problem

Although the sustainability problem has a long history that can be traced back to Plato, addressed more recently in the Limits to Growth study published in 1972, the origins of the 'sustainable development' construct, on

the other hand, can only be traced back to the very first international sustainable development conference – the United Nations Conference on the Human Environment, held in Stockholm in 1972.

The position put forth by the Conference was that economic growth was

1987 brought the sustainable development concept to global attention, placing it squarely on policy agendas. It served an urgent notice to the world that immediate decisive political action needed to be taken “to begin managing environmental resources to ensure both sustainable human progress and human survival”. According to Brundtland, “a relatively rapid rise in per capita incomes in the Third World”, coupled with growth in the industrialised world to revitalise the world economy, is essential to overcome poverty. It called for “a new era of economic growth – growth that is forceful and at the same time socially and environmentally sustainable” as the means to achieving sustainable development, advocating growth rates of 5% in the developing nations and 3%-4% in the developed nations.

Recognizing the reality of ecological limits, and acknowledging economic growth as the major factor in the problems of environmental degradation and resource depletion, Brundtland’s recommendation was that economic growth “requires a change in the content of growth, to make it less material- and energy-intensive in its impact”. The Brundtland Report triggered a flurry of academic activity including the formation of the International Society for Ecological Economics, an upsurge of interest in environmental economics, and vast reams of sustainability literature dominated by Brundtland’s sustainable development construct.

By the time of the 1992 United Nations Conference on Environment and Development

(UNCED) held in Rio de Janeiro (a.k.a. the Earth Summit) the sustainable development construct was entrenched, and remains at the core of the sustainability discourse to this day. However, the recent failure of the 2012 Rio +20 UNCED conference appears to mark the end of any international political commitment to the sustainability imperative, with global financial instability and a weak global economy now holding centre stage.

essential if development was to take place in the less developed parts of the world. It was argued this development need not clash with environmental protection; indeed, development was also seen as necessary to fund environmental management. Although economic growth had received some attention as a source of environmental pressures in the Report of the United Nations Conference on the Human Environment, the Stockholm Conference rejected the ‘no growth’ philosophy as being “absolutely unacceptable”.

The Brundtland Report of



Unpacking the Sustainability Concept

The Brundtland Report defined sustainable development as

“...development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”

This well-known definition defines the generally accepted twin objectives of sustainable

The second objective of intra-generational equity derives from the first, as Brundtland points out:

Even the narrow notion of physical sustainability implies a concern for social equity between generations, a concern that must logically be extended to equity within each generation.

While there is widespread general agreement that these are the necessary conditions for sustainability, there is little agreement on how intergenerational equity is to be achieved with the competing economically-based and ecologically-based viewpoints, known respectively as the ‘weak’ and ‘strong’ sustainability models. What differentiates these two models is the extent to which financial and human-made capital can substitute for natural capital, this subtle difference reflecting a fundamental paradigmatic divide.

Natural capital consists of renewable and non-renewable resources. The renewable form – in effect a life-support system – is living and active and includes biodiversity, species, habitats and ecosystems, spontaneously producing a finite flow of goods and services that can be

thought of as the interest from natural capital. The non-renewable form is passive and consists primarily of fossil and mineral deposits. Stocks are finite and flow rates are a matter of policy. In contrast, human-made capital consists of financial capital – i.e. money or debt; manufactured capital – i.e. machines, buildings, tools, etc. made by humans from natural capital using human capital; and human capital – i.e. people’s labour, skills, knowledge and culture.

The weak sustainability model argues that natural capital can be substituted for by financial, manufactured and human capital. This view holds that natural capital can continue to be liquidated and transformed into other forms of capital through the economic process, arguing that the welfare of future

generations is assured as long as the total stock of the various forms of capital does not diminish – a mainstream economic position that sees no limits to economic growth. The strong sustainability model, in contrast, argues that natural and human-made capital are largely complementary, and that natural capital stocks are the limiting factor and must, therefore, be maintained.

As an example, the annual fish catch is currently limited by the natural capital of fish populations in the sea and no longer by the man-made capital of fishing boats. Weak sustainability would suggest

development: intergenerational, and intra-generational. Dovers makes the observation that intergenerational equity is the fundamental objective:

If we do not place a value on the needs of future generations, then sustainability is not an issue.



that the lack of fish can be dealt with by building more fishing boats whereas strong sustainability recognizes that more fishing boats are useless if there are too few fish in the ocean, instead insisting that catches must be limited to ensure maintenance of adequate fish populations.

Proponents of strong sustainability also point out the unavoidable truth that manufactured capital is made from natural capital. As Korten explains “without these natural systems, none of the other forms of wealth, including human labour and technology, can exist”. There is no substitute for the life-support functions of natural capital, and it is senseless to try to artificially produce it at great cost when natural capital produces it spontaneously at no economic cost. This view reflects modern ecological economic thought, recognizing that there are physical limits to growth and calling for a steady state economy.

Environmental Economics

Most economists, including some environmental economists, subscribe to a weak sustainability perspective and see no absolute physical limits to economic activity. In addition to the general substitutability of different forms of capital they hold to a theory of infinite substitutability of resources. They argue that resource scarcity can be mitigated in a market economy by a combination of human ingenuity, technological innovation and market forces.

The environmental economic school of thought sees environmental problems as cases of market failure. Because air, water, and other environmental factors are unpriced or underpriced they

get over-used, resulting in environmental problems. The way to fix the market failure is to ‘get the prices right’ and then, according to the theory the market will solve the problem – the upshot being economic efficiency which is tacitly understood to equate sustainability.

Evaluating the Environmental Economic Perspective

Markets – an neoclassical economic theory – only work in a world of relative scarcity – the scarcity of one resource relative to another. In economics, price is the ratio of the scarcity of one resource relative to the scarcity of another. In the economists’ theoretical world of relative scarcity there may be some specific resources that do run out, but overall there is no general scarcity because, as resource approaches depletion, market forces will ensure its price rises; this incentive plus human ingenuity will lead to a substitute resource being found.

This is fine for resources for which there are substitutes. However, there are resources without substitutes, such as ecological systems or the life-support functions they perform, which are finite in their availability. In other words, these resources, and arguably the whole spectrum of natural capital produced by nature, are absolutely scarce. Since the primary focus of sustainability is on the non-substitutable living resources that are, by their nature, absolutely scarce,

this begs the question of whether it is possible to ‘get the prices right’ in regard to the sustainability problem.

The argument that economic growth can be sustainable if only efficiency gains allow the



economy to dematerialise by at least the same rate as it grows is also flawed. One problem with this idea is the Jevons Effect: when technology improves the efficiency with which a resource is used there is a tendency to use even more of that resource. A hypothetical example often used is the doubling of fuel efficiency halving fuel consumption. In this case fuel becomes

cheaper and many more people drive, thus leading to even more fuel being used than previously.

A similar argument – the shadow rebound effect – is where the savings from efficiency gains are

spent on other things that more than offset those gains through increased resource consumption or ecological impact.

A stronger argument still is that dematerialisation is mathematically absurd. Economic growth of $x\%$ per

annum is an exponential function. The mathematics of decoupling requires that efficiency gains increase exponentially through time at the same rate as economic growth, resulting in no net increase in the material throughput of the economy. This would require accelerating returns to efficiency, which is at odds with the reality of diminishing returns.

The phenomenon of discounting, in addition, has the effect of biasing values away from future generations towards the present generation. Discounting exists because we have interest rates and essentially, the discount rate equals the interest rate. Even at low discount rates, values 30 years into the future have almost no value in present day terms. In other words, markets place almost no value on intergenerational equity, thus opposing sustainability. Instead, how markets deal with the issue of time is to define an 'optimal depletion path' for all resources. This path is the one that maximizes present values, perversely rationalizing the harvesting of a given resource as fast as possible – to maximise returns until it becomes uneconomical to continue due to scarcity – and then to invest the proceeds in harvesting something else, and so on. Eventually, there is nothing left to harvest and future generations are deprived.

Ecological Economics

Ecological economics is grounded in a systems view of reality that rests on thermodynamic and ecological foundations. Ecological economists understand that sustainability requires humanity to live within the biophysical carrying capacity of the planet in keeping with the strong

sustainability principle of non-declining natural capital over time. To achieve this outcome they propose the following approach: first, impose a sustainability constraint to limit the annual global supply of natural capital to the sustainable level; then ensure an equitable distribution of money; finally, let the market efficiently allocate this constrained supply of natural capital within these prior constraints.

Evaluating the Ecological Economic Perspective

On the face of it, this approach appears to have a sound logic. However, there is a problem if the physical amount of resources within the sustainability constraint is inadequate to meet the material necessities of 7 billion people for food, shelter, infrastructure, etc. In such situations of absolute scarcity the market operates on the basis of exclusion: prices rise until a sufficient proportion of the population is excluded, and then the market clears at that high price. One could argue that this is not a problem if purchasing power is equitably distributed. However, in this case those who get in first will get the resources and many will miss out again. The only way to avoid this inequitable outcome is by rationing.

Reflecting on the limitations of a market-based approach it is becoming increasingly clear that the economic system as we know it is simply unable to deal with the sustainability problem.



The Role of the Financial System in the Sustainability Problem

Some ecological economists have added a further dimension to the understanding of the sustainability problem by drawing attention to the



role of the financial system in the global financial crisis. Martinez-Alier explains the global financial crisis as a mountain of debt that has grown exponentially and now vastly exceeds the real wealth it lays claim to. Daly and Green ask:

What allowed symbolic financial assets to become so disconnected from underlying real assets? First, our economy is based on fiat money (paper money issued by governments)

that has value by convention but isn't backed by any physical wealth. Second, our fractional reserve banking system allows pyramiding of bank money (demand deposits) on top of the fiat government-issued currency.



In seeking to explain the global financial crisis, former World Bank economist Herman Daly turned to the work of Frederick Soddy, who, in Daly's words, wrote that

...real wealth was subject to the inescapable law of thermodynamics and would rot, rust or wear out with age, while money and debt [virtual wealth] – as accounting devices invented by humans – were subject only to the laws of mathematics. Rather than decaying, virtual wealth, in the form of debt compounding at the rate of interest, actually grows without bounds.

Under the system of fractional reserve banking which has been in place for the past 3 centuries all money comes into existence as interest-bearing debt. Consequently, the money supply grows exponentially in a debt-based monetary system. Fractional reserve banking – essentially a pyramid scheme – locks the economy into exponential growth in order that the interest

on debt can be paid. Otherwise the economy collapses.

Virtual wealth can be obtained by physically working to produce things, or by investing, which now constitutes the bulk of 'economic' activity. Investment, in turn, may be either in the production of real, physical wealth, or in the production of virtual wealth. Today the bulk of investment is directed at the latter. Soddy used the example a 9-inch ball of gold to illustrate the logical absurdity of a system based on investing virtual wealth in the production of more virtual



wealth. If the gold is converted to money and lent at 5% compounding interest, in 1,070 years' time "our 9 inch ball of gold ... would arise legal claims to a golden ball equal in size to the earth, and weighing four times as much." These insights illustrate profoundly the fundamental disconnect between economic and physical reality.

Explaining Ecological Overshoot and the Liquidation of Natural Capital

Our new understanding of the concept of virtual wealth can explain why the planet's natural capital is being liquidated. Debt-based money is not real wealth, but virtual wealth – a mere claim on real wealth. Real wealth is derived from the natural capital of the planet. In the simplest analysis the root of the sustainability problem is the design of the financial system which structurally locks the world's money supply into growing exponentially. This amounts to an exponentially growing set of claims on a finite – and now rapidly diminishing – pool of natural capital.

The world's now-globalized market system facilitates the accelerating flow of natural capital from the environment, though the economy, to the consumer with purchasing power. The level of demand being exercised by humanity exceeded the planet's carrying capacity in the 1980s and is now 1.5 times the planet's carrying capacity. The planet's natural capital stocks are being liquidated in order to meet the escalating demand required by the exponential growth of virtual wealth.

Explaining the Growing Equity Gap

David Korten identifies two dimensions to the economic system: the real economy, which produces real wealth; and the virtual (or financial) economy, which produces virtual wealth. In the modern world people live by

obtaining virtual wealth, which they use to purchase real wealth. Korten points out that while the production system engages almost everyone one way or another in producing the world's goods, it is the financial system that determines who gets what of the global production pie. Those who do all the hard physical work receive a pittance of a few dollars a day on which to subsist while the investors take the vast bulk.

The reason for the ever-growing gap between rich and poor now becomes clear. Simply stated, the rich are able to grow their virtual wealth exponentially at compounding interest while the only means the poor have is to labour, with the low levels of virtual wealth they earn expended in subsistence with no surplus to invest. Consequently, the rich can become rich at an accelerating rate while the poor have little opportunity to do anything but subsist.

Another aspect to this is that private sector loans – whose sole purpose is to make money – are only created for those projects that can be expected to generate a sufficient rate of return. This means that a great deal of production does not serve human welfare, as meeting the basic needs of 80% of humanity is simply not profitable; rather, most investment is directed to meeting the wants of the already wealthy. Thus, it is clear that the current design of the financial system also structurally locks humanity into breaching the intra-generational equity criterion for sustainability.

The Dubious Foundations of Economic Thought

The origins of modern political and economic thought lie in the Deist worldview that God had created a mechanical clockwork universe that operated according to 'his' rational natural laws – a view supported by much of the philosophy of the time positing that human thought and behaviour were largely determined by natural laws similar to Newton's laws of motion.

Adam Smith, the founding father of economics, in keeping with the Deist thinking of his time, believed that God's natural economic laws ensured society as a whole moved along a preordained path of continual improvement, irrespective of the activities of the individuals making up society. The only way Adam Smith could make sense of this view was to invent a *deus ex machina* (literally "god from the machine"), a device used to explain away the unexplainable. In this case he came up with idea of the "invisible hand" as the means to explain how people pursuing their own self-interest serve the greater interests of society.

The first generation of economic thinkers sought to transform economics into a rigorous scientific discipline by aligning it with physics. They reasoned that there were parallels between the natural laws of physics and the natural laws of economics, drawing on the work of one of the best known and most widely regarded physicists of his time: Herman Helmholtz. Helmholtz, grappling with the inability of Newtonian mechanics to deal with heat, electricity and light, hypothesized the existence of



a protean field of energy that could unify these phenomena. However, this theory was eventually abandoned because it could not be tested scientifically. In spite of this, as Nadeau records:

The strategy used by the economists was as simple as it was absurd - they took ...

[Helmholtz's equations] ... and changed the names of the variables. Utility was substituted for energy, the sum of utility for potential energy, and expenditure for kinetic energy".

These equations based on failed physics equations remain the theoretical foundations of neoclassical economics to this day. The conceptual basis of neoclassical economics continues to be recognised as weak, even by a significant number of economics Nobel Laureates including Joseph Stiglitz, Daniel Kahneman, and Amartya Sen. The sobering reality is that this 'nonsense' as Keynes described it, remains the foundation of modern economic theory and serves as the rationale for relying on the market as the key organising principle of society.

Toward a new Economic System Grounded in Reality

Three broad objectives need to be addressed in order to allocate absolutely scarce resources sustainably. Resource allocation needs to be within ecological limits, it needs to be equitable, and it needs to be technically or ecologically efficient.

Since, as discussed, this problem is not amenable to market-based solutions, the challenge falls to the

institutions of governance; and because the problem is global in scale, some degree of global governance is implied. Governance at what is currently the national scale will need to be both politically and economically democratic. So what might the sustainability institutions look like in this context?

The disconnect between the virtual money/price system and the real physical system effectively means that economics cannot serve as the mechanism to direct what happens in the physical world. Therefore economic analysis and practice must actually be conducted in terms of the physical dimensions, not the monetary dimensions, of the economy.

Towards Intergenerational Equity

A sustainable global system is required for determining and monitoring the physical natural capital stocks and flows of energy and materials. On the basis of this information it would be possible to establish a system of physical accounts for each form of critical natural capital. This would enable annual physical capital budget constraints to be set for each form of critical natural capital. These physical capital budget constraints could then be allocated on an equitable per capita basis to each continent or country or jurisdiction. If each jurisdiction around the world abided by its physical budget constraints then, in principle, the world would be operating on a sustainable basis.

In order to operate within these physical budget constraints jurisdictions would need to identify current forms and modes of production that can be abandoned or greatly

reduced with little or no impact on the wellbeing of the people. Policies would be needed to: establish energy and material descent pathways and targets; establish targets for the phase-out of fossil fuels; introduce a shorter working week; and introduce rationing for critical resources such as water and petrol. While these measures may appear drastic, the sustainability emergency demands emergency responses if civilization is to survive.

Towards Intra-generational Equity

Addressing the intra-generational equity criterion for sustainability will require significant redistribution of access to the world's resources. Within jurisdictions, it will be important that the citizenry decide, via a democratic process, in broad terms how the relatively small annual pool of resources should be used. Obviously priority will be given to the highest needs and would likely reflect Maslow's hierarchy, with food needs assured first, then shelter, and then perhaps essential infrastructure. It may be that the pool of resources is so constrained that needs beyond these may be impossible to meet. This could provide a strong social incentive to produce fewer children and reduce population over time, since standard of living will be inversely proportional to population size.

Sustainability demands that the financial system be redesigned so it no longer drives ecological overshoot and inequity. One often suggested reform of the financial system is to shift from a fractional reserve system to a 100% reserve financial system. This has no expansionary imperative, meaning the

economy can be contracted without collapsing. Under such a system the state could fund the physical infrastructural transformation of the economy to a solar energy basis while contracting the scale of the physical economy.

Ideally, the financial system and the powers of credit creation should be vested in the public sector under a system of very strict prudential supervision oriented to sustainability considerations. Investment should be directed to meeting the needs of humanity in the most technically efficient way, as sustainability requires that resources are directed to meeting needs, not to growing virtual wealth.

Technical (or Ecological) Efficiency

The third requirement for allocating absolutely scarce resources sustainably is technical or ecological efficiency, which means that the maximum human benefit is derived from a given quantum of resources. Since the market cannot do the job, the responsibility for achieving technical or ecological efficiency must also be borne by democratic systems of governance. This institution would conduct physical technical efficiency analyses for the spectrum of products and their associated modes of production. Highest priority would be given to meeting basic needs of food, shelter and energy, and then working progressively up Maslow's hierarchy of needs.

The proposed framework of physical accounts would provide the informational basis for these and similar analyses to identify the most appropriate technologies for achieving maximum reductions in both throughput and ecological impact. Through the use

of input-output tables it will be possible to untangle the complex interconnections of embodied matter, embodied energy and embodied water to identify or design the most efficient approaches in terms of these factors collectively or synergistically. Once the most efficient modes of production are identified, the system of governance would facilitate the production of the selected form of energy, materials, goods and services by the specified modes of production.

In Conclusion

It is evident that the failure of the sustainable development paradigm is due to it being subsumed into the economic paradigm – a paradigm so disconnected from reality that it simply cannot address the sustainability problem.

An evaluation of the sustainable development construct as it is seen through the lenses of environmental and ecological economics leads to the conclusion that the economic system, as currently designed, is simply unable to deal with the sustainability problem. An analysis of the financial system and its role in the problem leads to the conclusion that it is the inevitable structural driver of both ecological overshoot and increasing inequity. Sustainability therefore demands that the current design of economic and financial systems is abandoned.



A New Mythology

By Kari McGregor

In a culture of storytelling mythology is the cornerstone. It informs and shapes our worldviews with the power to construct, change, or challenge our view of reality, gently directing the course of our civilization's development.

Humans have evolved a culture of story-telling as a way to pass information from one person to another, from one generation to another, a way of contributing to a common repository of information by which we are able to learn and develop. In this way we are a unique species – our adaptability to our environment enhanced by our ability to consciously store, transmit, and accumulate pools of knowledge.

This story-telling has enabled us to make huge advances in our social, political, economic and technological innovations, exponentially increasing the shared knowledge repository of humankind. Stories enable us to instil cultural values – most traditionally connected to our needs and that of our landbase – and ensure that they are internalized from the very young to the wise elder. Telling stories is the way in which we ensure that certain behaviours are characterized as good, or heroic, while other behaviours are immediately seen as bad, or villainous – a simple way to elicit desired behaviours from our kids, our employees, our populace.

But the telling of stories is a double-edged sword. Those who craft and perpetuate the stories of our culture are in a position of both great responsibility and great power – the power to influence, even determine, the behaviour of whole populations. This power is not always used for good, and the responsibility often evaded – as is the case with mass-media distributed propaganda. Examples such as the work of Ayn Rand – who crafted a suite of heroes whose job it was to rationalize the concept of self-interest as the greatest of all virtues – demonstrate how even popular fiction can be used to generate a cultural meme of profound

effect, with Alan Greenspan, economist and former chairman of the US Federal Reserve, listed as one of Rand's closest followers and a key player in the sub-prime mortgage crisis that led to the Global Financial Crisis.

Recognition of internalized concepts as stories enables us to alter our detrimental and unsustainable worldviews in favour of views that are more in line with natural world realities, and thus more amenable to our sustainability. We are, it seems, both the master and the servant of our mythology, our servitude all the greater if our mastery is the lesser.

Our culture's embedded mythology

Some of the myths of our culture are so deeply ingrained that we fail to recognize them as stories, instead assuming that our limited and filtered worldviews are simply rational and objective assessments of our reality.

At the root of our erroneous worldviews – the views that are fast-tracking us towards annihilation as a species – is the notion that humanity has dominion over nature. The origin of this concept long predates the biblical references to it, yet it is, nevertheless, a religious belief – one that has become so entrenched that even atheists who have long since cast off the mantle of religion subscribe to and repeat it as though it were absolute truth. The false and arrogant belief in our dominion over the natural world has led us down the path of destruction only an Old Testament God could incur. We fear wild nature and seek to tame it, fencing ourselves into concrete enclaves within which we foster the belief that all else is beneath us. We distrust the wisdom of Mother Nature, insisting that our own technological offerings are superior to her craft. We use the offerings of the natural world for

our own selfish gain, failing to recognize the needs of other species as equal to our own – for they, too, are under our dominion. We punish the natural world for its inferiority to our perceived greatness – we tear up forests, vacuum oceans, blast the tops off mountains, create vast swathes of desert, bleed our rivers dry, and we enslave, torture, and murder animals in a daily holocaust of biblical proportions. Yet the reality is that we have no such dominion. We have the power to influence our environment, as evidenced by anthropogenic climate change, but not to control it, as is abundantly clear from our humble submission to nature's most awe-inspiring feats of destruction.

From the story of our dominion over nature stems our concept of ownership. If we are able to dominate the natural world we are then able to own portions of it, buy and sell those portions, and generate further wealth from the production of goods from its looted resources. We tell ourselves the story that we are entitled to own regions of nature's kingdom and we compete for this perceived entitlement, destroying the very amphitheatre in which we stage our battles. The competition for ownership unleashes the atrocities of war, slavery and imperialist conquest, with the fallacy of entitlement the very concept with which our culture of empire justified the decimation of 99.6% of the American Indian population. Our sense of entitlement to own knows no bounds – the enslavement of our less-entitled brothers and sisters worldwide is what facilitates our insatiable hoarding of iCrap; the rape and pillage of our life-giving biosphere is what affords us our glitzy shopping malls and highways between havens; through grabs for land and water the starvation of our fellow humans is what enables us to self-pityingly experience obesity, diabetes and cardiovascular disease – the maladies of our own affluence. Yet the truth is that we in the west are simply able to pay for all this. We know better the rules of the game and are born on the winning team. The reality is that we never truly own anything. Once the game is over everything goes back into the box. We can't take it with us.

Further disrupting the harmony of what could be, we demand our economies grow because such growth is both desirable and necessary – another myth generated from our sense of dominion over nature and the concept of ownership. We believe that economic growth is desirable as it will enable us to have more of the finer things in life – things our ancestors could not have imagined possible, such as fast cars, jet planes, swimming pools, designer clothes and holidays in exotic locations; we view it as necessary because it enables an acceptable standard of living for all with access to food, water, shelter, energy, healthcare and education. Far from giving the poor a leg up to attain levels of material security and genuine opportunities, economic growth simply funnels wealth to the owners of capital, making a mockery of the trickle-down fallacy while

accelerating the rate of material throughput and the depletion of the fossil fuel and mineral resources that make our short-sighted dreams come true. The reality is that economic growth is only necessary for one thing – the perpetual growth of the Ponzi scheme that is money in order to provide greater wealth to the already obscenely wealthy. In our insatiable quest for wealth our worldviews have become dangerously decoupled from what we really need for survival – and none of the needs on Maslow's hierarchy pertain to luxuries of the material world that only serve to undermine our access to safety, security, meaningful relationships, and the spiritual goal of self-actualization.

The Protestant work ethic is a narrative that has propelled our society in its quest for economic growth and prosperity, and control over nature via sheer hard work. We believe that our desires only remain out of reach due to insufficient effort on our part, and that those who have what we desire have earned it through the sweat of their labour. Those who toil under slave-like conditions in mines for the production of the rare minerals from which our well-deserved iCrap is made must simply not be working quite hard enough as they lack the money to send their children to school, much less ever own an iPhone. Those who labour most hours of the clock to produce the designer finery in which we sip cocktails and self-aggrandize our own accomplishments must simply not be putting in quite enough time as they merely subsist on the meagre rice their time buys, never dreaming of donning the garments they produce in abundance. Even we, the world's wealthy, are never working quite hard enough to fuel the economic growth machine and fully realize our dominion over the earth. What needs to be challenged in this narrative is not work, but the material success-oriented ethos, the climbing of the ladder to power, and the resultant status that awards the winners of the game the moral right to a piece of the feudal kingdom. The reality that needs to be told is that hard work by itself – i.e. without the propellant of privilege – is rewarded, in most cases worldwide, by exhaustion, and not the promised liveable wage, much less the American Dream.

A culture of denial

Dancing hand in hand with our culture of mythology is our culture of denial. With the elaborate falsehoods we have woven come the need for ever more elaborate justifications. Justifications for our actions and worldviews involve further layers of narrative such as “human nature is inherently greedy, selfish and competitive”, or “this is the way it has always been”, or “nature would have made things different if it were not supposed to be this way”. When confronted with reality we deny that our worldviews are faulty, insisting that any challenge to our most sacred of beliefs must simply be wrong. Our confirmation bias serves the

maintenance of the status quo, and our trajectory toward collapse of our beloved way of life.

A move toward adopting a new mythology, a more honest set of narratives for a worldview in sync with reality is one that will not come easily. In our denial of any alternative views and ways of life we are trapped in a cycle of Cassandra-like despair, in which the wise fervently preach portent of what is to come if we do not mend our ways, and we ignore the ill-fated messengers who fail to dislodge our minds from their comfort-zone of embedded myth.

Historical precedents

We face a gargantuan task in bringing a more realistic narrative to a society founded upon a denial of reality. However, this task has been attempted before throughout the ages, and with incremental successes via media of various forms from Plato's *The Republic* to Thomas More's *Utopia* to Mark Twain's *Adventures of Huckleberry Finn*. Certain points in our history have sparked entire movements of trajectory-changing narrative, injecting truth into public consciousness, and the hope that another way is possible.

The First World War brought forth a wave of literature telling of truths obscured by the mainstream media mythology of the day. While the newspapers were pressing young men to enlist in the army to "fight for their country" poetry was flooding back home from the battlefield telling truths of what was. Wilfred Owen's *Dulce Et Decorum Est* provides a bitter and vivid account of life in the trenches in the age of chemical warfare as well as an enduring critique of the popular myth – a brazenly alternative narrative to that of the ruling class. The final four lines hold a raw and bitter beauty of a

truth dared told:

*My friend, you would not tell with such high zest
To children ardent for some desperate glory,
The old Lie: Dulce et decorum est
Pro patria mori*

Attempts to positively influence the course of social development through narrative surged during the era of Romanticism, beginning in the mid-late 18th century in the UK – while the founding fathers were theorizing economic thought. This movement was a philosophical, political, literary, cultural, and artistic challenge to the Enlightenment movement, which was of a more intellectual bent with the purpose of reforming society through the use of reason and advance knowledge through science. The Romantics were of the view that society could not be reformed simply by the application of information and reason, but that a narrative would have to be woven – a view in line with our emergent contemporary understanding that informing society of ever more facts and figures does not have the desired effect for social change.

Fundamental to the Romantic movement was the belief in the natural goodness of human nature. It was theorized that, contrary to popular

Wilfred Owen's Dulce Et Decorum Est

*My friend, you would not tell with such high zest
To children ardent for some desperate glory,
The old Lie: Dulce et decorum est
Pro patria mori*

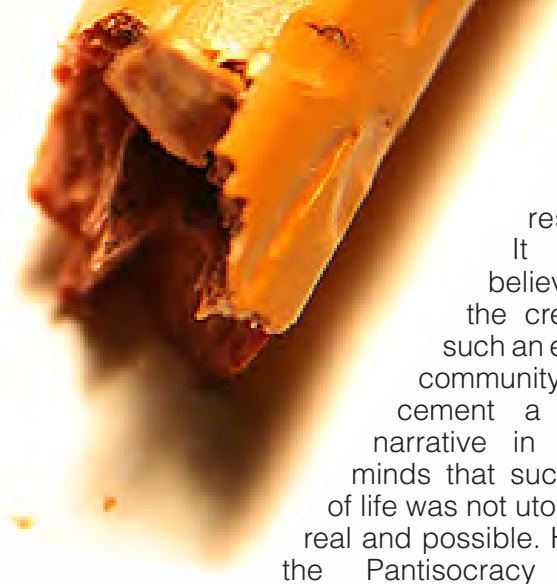
*[This could possibly be included on the side:
Dulce Et Decorum Est – Wilfred Owen
Bent double, like old beggars under sacks,
Knock-kneed, coughing like hags, we cursed through sludge,
Till on the haunting flares we turned our backs,
And towards our distant rest began to trudge.
Men marched asleep. Many had lost their boots
But limped on, blood-shod. All went lame; all blind;
Drunk with fatigue; deaf even to the hoots
Of disappointed shells that dropped behind.*

*GAS! Gas! Quick, boys! – An ecstasy of fumbling,
Fitting the clumsy helmets just in time;
But someone still was yelling out and stumbling
And floundering like a man in fire or lime. –
Dim, through the misty panes and thick green light
As under a green sea, I saw him drowning.*

*In all my dreams, before my helpless sight,
He plunges at me, guttering, choking, drowning.*

*If in some smothering dreams you too could pace
Behind the wagon that we flung him in,
And watch the white eyes writhing in his face,
His hanging face, like a devil's sick of sin;
If you could hear, at every jolt, the blood
Come gargling from the froth-corrupted lungs,
Obscene as cancer, bitter as the cud
Of vile, incurable sores on innocent tongues, –
My friend, you would not tell with such high zest
To children ardent for some desperate glory,
The old Lie: Dulce et decorum est
Pro patria mori.*





contemporary and historical belief, in a “state of nature”, humans would do good, not harm, but that civilization as we had created it provided a hindrance to our natural expression, with William Blake claiming that: “urban life and the commitment to “getting and spending,” generates a fear and distrust of the world.” The Romantics also expressed commitment to change – a dynamic rather than static way of being, spinning a narrative of a perfectible humanity, that moral as well as technical progress is possible. The Romantics’ greatest enemies were cast as the successful bourgeois, or the Philistine with a vested interest in maintaining the status quo.

Romantic poets stressed a love of nature in their work – the controversial literature of their day – with Samuel Taylor Coleridge referring to poetry as a “... mediatrix between, and reconciler of nature and man”. Nature was referred to as an exemplar and source of physical beauty, as well as embodying a more metaphysical manifestation of spirit in the universe. It was believed that the structure of society and politics had led to a culture of servitude and oppression, and that a departure from materialism and possessive ownership in favour of values more congruent with the needs of the natural world would assist in catalysing a much-needed fresh start. Such views were heavily influenced by accounts of “new world” travellers who had had contact with First Nations’ peoples.

From the era of Romanticism emerged Coleridge and Robert Southey’s “Pantisocracy” – plans for an egalitarian community of people living a more simple life in accordance with the dictates of Mother Nature and with common ownership of all land and

resources. It was believed that the creation of such an exemplar community would cement a positive narrative in people’s minds that such a way of life was not utopian, but real and possible. However, the Pantisocracy society

never came to pass due to disagreements arising between its would-be founders regarding the integrity of the scheme.

It seems our society may be yearning for a new wave of Romanticism to communicate the messages that our modern-day Enlightenment of the purely intellectual is unable to convey, and to reach people in the ways that cold hard facts and figures cannot. New stories will be needed.

Telling a new set of stories

It is clear that our old stories aren’t doing the job of instilling sustainable values and congruent practices, and that we need a new mythology that is responsive to the needs of our planetary emergency. Our new narratives need to be at once more truthful and empowering, inspiring a level of social change thus far unachieved by our era of access to information. With the application



of carefully constructed cultural memes, crafted with responsibility and integrity, it may be possible to reach far more people with the internalized values and constructs of a sustainable paradigm.

We need to replace the myth of humanity holding dominion over nature with the truth that we are simply a part of nature's complex web of symbiosis. An understanding of our place in the ecosystem can be facilitated by simple stories embedded in our culture from early childhood, and serve to inform our responsible custodianship of our landbase.

The narrative of entitlement to ownership needs to be replaced with that of common access to all that nature provides. A new mythology needs to bear forth the truth that equity is a moral and practical imperative in any healthy and functioning society, leading to something much more akin to the African concept of Ubuntu, in which it is said that "I am because we are".

Our doctrine of perpetual growth needs to be cast aside now that we understand the growth paradigm is faltering. A steady-state economy is one which needs to be embraced by positive narratives telling of the quality of life that can be experienced in a world post-growth, a world in which people labour fewer hours and have more quality time with loved ones, a world in which our obsession with material possessions is replaced with an embracing of rich life experience. Hand in hand with the notion of a steady-state economy comes the replacement of the work ethic myth with stories of the wondrous creativity of the human spirit in a life unrestrained by the shackles of monetary-motivated labour.

And in order to truly empower people to be the change they wish to see we need to break free of the myth of human nature as self-serving narcissists. With a new narrative informed by the findings of contemporary psychology people may seek to express the best of human nature and become the heroes of their own new mythology.

Cultivating a new heroism

The challenge now before us is to craft a new mythology in which our heroes are ordinary people like ourselves who pave the way toward a sustainable future. Instead of the high positions held by our heroes and gurus of old we must remove the pedestal and create a construct of heroism to which all can aspire and reach. Unlike Ayn Rand's self-serving heroes who benefit in parallel with the losses they inflict upon others our new narratives may feature heroes celebrated for their empathy, altruism and collaboration with their community, with our new villains being those who undermine sustainability in their failure to be mindful of the consequences of their actions. Our heroes need to reflect the journey we, ourselves, must take in becoming and creating the change we wish to see.

Whatever the form of our new heroes or the journeys they will take we must pay attention to the responsibility that we all hold – our responsibility to tell our new stories, to add to the pool of knowledge, to pave a sustainable direction for our children's future. It is we who are to be the heroic authors and narrators of our new mythology, a mythology which, when itself grown old, will be famed for its dramatic rescue of humanity from the cliff-edge on which we now stand.





Debunking Reality

By Shakti Saraswati

I know this may seem a bit brazen, and of course reality is what it is; however, it is the case that when people do not learn how to use their body machinery correctly, abstracts and concepts are created whereby there may be no reference at all to actual fact. A common misunderstanding is that one person's reality is the same as another's. The first thing to recognise in this process is that each individual has a completely unique understanding of what reality is, based on their influences (and interpretations of them), brain plasticity (and willingness to adapt to new situations), and life experiences according to the opportunities presented or pursued. Rather than framing this as a scientific presentation it is, in fact, a negotiation of understanding that we have with each other, based on actual facts or manufactured ones. The variable is our ability to think critically about information that presents itself, and apply copious amounts of practicality in the real world.

I think it is safe to say that the only thing each individual can say with any certainty is that they exist. What exactly that means becomes merely a point of view depending on the amount of knowledge one has collected with experience. To start from the most fundamental elements in our present reality, which some may describe as 'matter', 'space' and 'time', leaves us with nothing but abstracts. There is a deficiency in the use of language when there is not only no information, but not even a correct perception of what is actually there. Primitive man saw something, ate something, and was hurt by something, and did not recognise content or process. The primitive way of thinking was logical, but without information, and so assumptions were made and conclusions confused. A more modern correction may be 'materials', 'plenum', 'fullness', 'spread', and 'times' (e.g. seconds).

So far we don't know what gravity is. We know that the universe is about 4% free hydrogen and helium, 0.5% stars, 0.3% neutrinos, 0.03% heavy elements, 25% dark matter, and 70% dark

energy. The word "dark" is there because we do not altogether know what it is, thus making the words "matter" and "energy" inconclusive. Matter does not give a very clear indication as to what is there, and is insufficient as a descriptor. A more accurate way to describe what is there is "plenum", which is space filled particles gathered together in different densities. So we may describe the glass as being half empty (or full) where, in fact, it is always full. The word "space", does not have the functionality as the word "spread", or "fullness", when there needs to be something that can be measured. Some words can have definitions, but after adding many more definitions to the same word, it loses its function.

Of course we can measure time, itself being a fiction, thus becoming consecutive periods of times. In essence, time in one static moment is elusive, and when one tries to capture it, it is already gone. The abstract of infinity can also pose problems. In the world of numbers called mathematics it certainly exists, and calculations can have a never-ending implication; however we still cannot see it despite knowing it is there, extant in both the macrocosm and the microcosm. In real life infinity has no meaning. With the limitations of an observer trapped in a physical body verification is not possible within one lifetime, thus making it irrelevant for discussion.

To summarise a non-thinking person's view of reality, in which they may assume that where there appears to be nothing, there is, in actual fact, something. From the macrocosm to the microcosm it is all full. In physics, the word nothing is not used in any technical sense. According to Wikipedia):

"A region of space is called a vacuum if it does not contain any matter, though it can contain physical fields. In fact, it is practically impossible to construct a region of space that contains no

matter or fields, since gravity cannot be blocked and all objects at a non-zero temperature radiate electromagnetically. However, even if such a region existed, it could still not be referred to as “nothing”, since it has properties and a measurable existence as part of the quantum-mechanical vacuum. Where there is supposedly empty space there are constant quantum fluctuations with particles continually popping into and out of existence. It had long been theorised that space is distinct from a void of nothingness in that space consists of some kind of aether, with luminiferous aether serving as the transmission medium for propagating light waves.”

A form of communication deficiency has been occurring with an incomplete recognition of basic concepts of “what is”. We make many confusions with incorrect usage of language and then we perpetuate them without ever correcting them, leading to abstracts of the mind attempting to find an existence in the plenum of life. We now want to fix the problems of gross mismanagement to build a new system; therefore we need to find new ways of seeing the world with a better understanding which we can all share.

The most obvious illusion is the power distortion which is all-pervasive among humans. Its inadequacy is expressed in gross dysfunction. Many people do not understand the imposition of force, and so do not teach their children to think correctly, but rather to acquiesce to a reality distortion. The perfect example of this is ownership, which is, in essence, a firm of violence.

“It is the wilful imposition of restrictions to acts upon an object. It is important to understand that without imposed territorial violence there was no ownership, merely mutual land use or empty threats. Which is why any peaceful native culture was overtaken easily, and non-resistance was construed as not claiming ownership over the land.”

Eden's Philosophy

Without violence and aggression the concept of ownership simply does not exist. In nature, an animal interacts with the land, regardless of communication. The only acts known to it as undesirable are defined in aggression. As a wolf snarls at others near its kill a human uses weaponry to enforce an imaginary barrier as he intends it to exist. A society and communication has developed only now the poorest are confronted with true violence while the rest are ruled by fear of it. Humans are stifled in all possible endeavours throughout life, fearfully seeking to just exist in an area of land without violence or ownership or others infringing upon their existence. The hive-mind of humanity builds knowledge, but the individual keeps it shackled for fear of losing the capability of claiming the land underfoot as his or her own. To secure existence in this world without fear one must succumb to the rules imposed by the society itself. Thus the cycle of fear continues. One cannot exist without imposing fear upon others and they upon you.

To most people this is reality. Actually we are all flesh and blood, a collection of colloids, solids and liquids of different density in suspension, all subject to the same laws of nature. We have





a highly developed brain with a huge potential – where the neural connections mathematically form astronomical possibilities – yet most people choose not to use it. All interaction between one human and another is a constant negotiation of understanding, where some strive to create personal advantage over others, and others just struggle to survive. One thing that people do not understand is that any demand made upon them puts them in a position of advantage. This was the conclusion at the end of slavery. If someone wants something from you, you can charge whatever you want, depending on your ability and availability. This, of course, is symptomatic of our competitive society, but its power is unrecognised.

In a competitive society the contract is the main form of negotiation, and its only legitimacy is mutual agreement and benefit. A distortion occurs where one is coerced to think that they have no choice, or succumb to any intimidation or threats of violence. One of the most deceptive contracts is attempted by using a fiction to mask a desire to exploit. A contract can only be the meeting of two sentient minds. This fiction is created in business where, when a company fails in what is generally a collective effort, it is neither possible nor desirable to hold any one person responsible. So a trust is formed and a word that should only exist as a verb now becomes a noun - “The Trust” – which is manifest as the business name, or the legal fiction. Oddly this fiction is given the status of a person, which is still a legal entity. People falsely identify with this entity, and mistake it for their living being. This means that when you are engaged in a contract with

a company you can only, in fact, engage in a contract with an individual in the company. That person can pretend to hide under a fiction, but they are perpetrating an illusion. This is how structural violence is perpetuated. However, something that is not real, is just that – not real. The challenge, then, is to actually engage the power of negotiation, and bring together two minds for mutual agreement and benefit – and these are not persons; they are living beings – flesh and blood. Where there is no benefit or agreement, there is no deal, and any force can be dealt with in a civil court. “Just following orders”, is covered by the Nuremberg trials, and is not a defence. This means that no living being can use a fiction as protection.

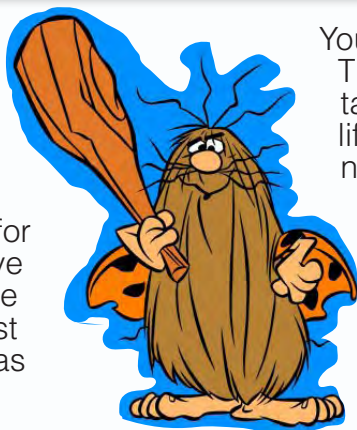
With a new desire to collaborate based upon collective negotiation, sharing of understandings, and a more correct perception of how the world works, we will move through times looking at the emergence of reality, moving toward to a sane system and a true civil society. It is a wise person who realises that making the same mistake more than twice will undermine their wisdom. Of course one can do something and fail, but on the second attempt one must try something else. Each time there is something new to be learned, and eventually the correct result will bring success. Real life consists of constant variation were no two events are the same; it is certainly not a dull place.



Where did we come from?

By James Hill

To support the current cultural mythology it is necessary now, as it has been in any social system based on a lie, for people to have instilled a false sense of not just present, but past as well.



While the 'evil human nature' meme is slowly being eroded by the factual evidence amassed from the last 100 years in experimental psychology and sociology, it still holds as a general cultural assumption; a scenario that can only be described as informational lag.

The point has nevertheless been belaboured by the scientifically literate: from the 'theory of mind' and 'mirror neurons' in mammals – hard wired empathy, to game theory's 'forgiving tit for tat' – mathematically proving that 'nice guys finish first' is evolutionary strategy. It is not original sin or 'selfish gene' strategy alone, but simply genes reacting to environmental conditions that makes us into either 'homo-empathicus' or a gas chamber attendant.

You may have heard Thomas Hobbes' take on early human life: solitary, poor, nasty, brutish, and short. But this is not the whole quote. I suspect the reason it never seems to be published in full is because of the other claims Hobbes makes in the same passage

– claims that we now know to be false, such as the notion that early human life had "no culture", "no navigation", "no account of time", "no arts", "no society", and lived in "continual fear, and danger of violent death". Even the claim of a short life is debunked by the average modern, surviving hunter gatherer's life span being around 70 years. What changed? I would go as far as to say these claims may be construed as utter racism if they were not simply based on ignorance. So, why is it that this sentiment, disproven by archaeological and anthropological evidence, is still touted by some evolutionary psychologists?

George Orwell's observation of the present controlling the past has never been more

relevant when it comes to the "Flinstonization" of our prehistory. The vested interest inherent in the profoundly false assumption of technological progress somehow implying social progress is one of the saddest mistakes we make when projecting current environmental conditions into prehistory. Our evolution is not a matter of survival of the fittest in terms of strength, speed or stamina; it is a matter of natural selection in that those most suited to the environmental conditions are selected for – i.e. the "fittest" for that environment. It is of importance to note that evolution does not, therefore, always mean superior – especially when we control the environment that shapes us.

The beginning of the Neolithic age, or, as some call it, 'the agricultural revolution', was not the step from savage to civilized in the cultural sense we



assume, although it arguably was so technologically. From a practical standpoint, the Neolithic age saw vast changes: labour went from an average of 10 hours a week to a dusk-til-dawn workday, and the vast diet of foods from an omnivore diet became limited to 50 different types of cultivated foods, if you were lucky.

This change in lifestyle, as Robert Sapolsky notes, went from the gathering of food and resources to their storage and distribution due to more

efficient accumulation of a now more abundant supply. This transition to storage and distribution of these resources led, ultimately, to their unequal storage and distribution. Thus began hierarchical social stratification via dependence for the necessities of life, and real power imbalances emerged for the first time as people no longer had the knowledge or capability to obtain resources for themselves. This sowed the seeds of poor nutrition, leading to disease, stunted growth, shorter lifespans and overpopulation.

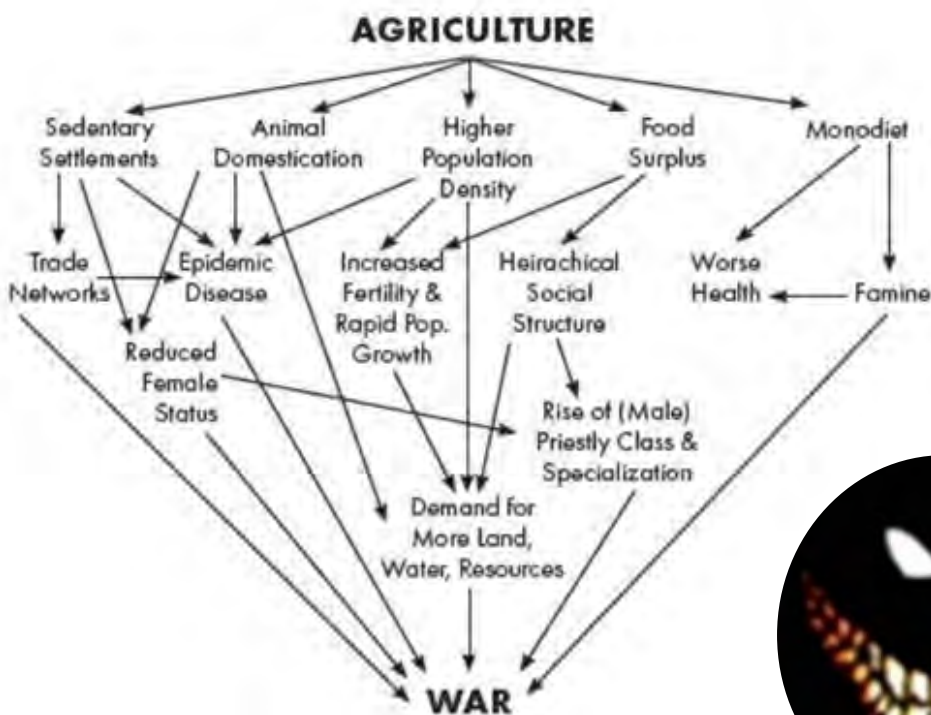
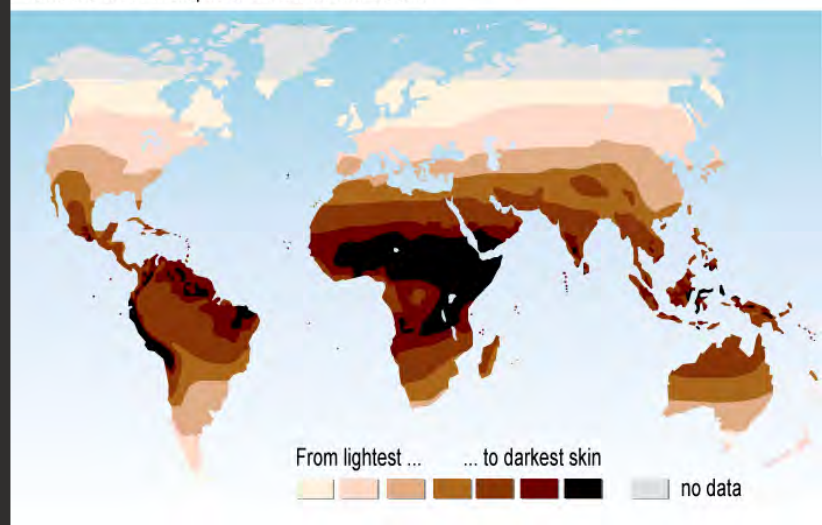
If one of our ancestors from 50 thousand years ago were raised today there would be no discernible difference in that person's ability to

The propaganda of evil human nature is sometimes sold so desperately in the scientific community that so-called

There is one last nail to be hammered into the coffin of the 'violence is genetic' argument. Our closest wild equidistant

Skin colour map for indigenous people

Predicted from multiple environmental factors



operate in our 'modern world'. So what exactly can be extracted from the word "primitive"? Jarred Diamond has written extensively on the technological advancements of certain geological regions achieved only because of the types of resources available – not because of some eugenic justification of greatness for a particular level of melanin in the skin, or some such crude, elitist rationalization.

experts such as Steven Pinker and Napoleon Chagnon will outright lie to protect the sanctity of modern 'civilization'. Aside from environment demonstrably being the causal factor in violent behaviour, the innate, uncontrollable, evil testosterone has been noted by neurobiologists as subject to the same.

ancestors are the chimp and the bonobo. Bonobos represent the X-rated facts that are not as easy to come across in the literature, as they expose an obvious orifice in the standard narrative. They, like the chimp, share about 98% of our genetic structure, but, unlike chimps, they have no social violence, lots of non-monogamous sex, and are matriarchal, female-ruled societies. Despite these differences, even the chimps' children are always fed and chimps have only been observed to exhibit violent behaviour when crossing each other's territory to access feeding pits of Jane Goodall's bulk bananas.

Did you know that women hunt and men forage? Just trying to get your attention; they both did both. 70% of our diet, on average, was vegetation with 30% meat before the Neolithic age. Homosapien hunting methodology does not require brute strength, and neither have we been naturally selected for this, with our cousins, the Neanderthals having about 4 times our

muscle strength. Modern-day women athletes have about 80% of male physical capability (only athletes considered – not factoring in the sedentary average Joe!). This would not have been retained via natural selection if foraging and baby-making were the only career choices available to women.

What did get bigger, however, was the human brain (particularly the frontal lobes) – which we used for hunting, replacing the need for physical strength with the intelligent and strategic use of fire, cliffs, bush surrounds and projectile tools. Despite our enhanced skills in logic, reasoning and strategizing, the stand-out attribute of our larger brains, however, is our better cooperative capabilities and communication that, although seen in any mammal, we are arguably better at. The social bonds and systems of enforced altruism ensured that our family units had little internal conflict. Most modern hunter-gatherers still retain these social customs, though ‘the family unit’ as we recognise it today is a relatively modern invention, and marriage is a minority behaviour in most recorded societies.

There is a vast difference between ‘direct to resource’ hunter gatherers and those that the missionaries got to before the anthropologists. The typical depiction of the unkempt caveman, in contrast to the recorded and photographic evidence of Native American decorative clothing, for example, represents the divide between what is culturally known by the lay-person, and what is found in the archaeological evidence. The artwork and decoration discovered is astonishing evidence of spare time for the majority of hunter-gatherers, reflecting the effectiveness of their resource management. Such discoveries are also, to be blunt, evidence of our civilization’s misrepresentation of our origins as modern humans, and our need to re-frame our popular narratives regarding where we came from.

References

For those interested in further reading on this topic some useful sources include:

- Our Kind: Who We Are, Where We Came From, Where We Are Going, by Marvin Harris
- Sex at Dawn: The Prehistoric Origins of Modern Sexuality, by Christopher Ryan, Ph.D. & Cacilda Jethá, M.D.
- Cro-Magnon: How the Ice Age Gave Birth to the First Modern Humans, by Brian Fagan



The Walk for Solar: A Story of How We can Do It

By Michael Kubler

80 people walking. 328 kilometers. An epic two-week journey – full of fun, blisters and sun. The Walk for Solar: an awareness-raising campaign to demonstrate community support for renewable energy technology.

Port Augusta, a town a little over 300km north of Adelaide, South Australia, is home to two coal-fired power stations. These two power stations are amongst the dirtiest coal plants in the southern hemisphere and are slated to be shut down in the near future. The replacement options consist of either solar or gas.

The gas option would likely source the methane – otherwise known as natural gas – from coal-seam or shale gas, via hydraulic fracturing – an environmentally devastating process of extraction referred to by its opponents and proponents alike as fracking.

The Solar option is Concentrated Solar Thermal (CST), which is rather different from solar photovoltaic (Solar PV), in that it can provide base load power – even at night. CST usually involves a large field of mirrors concentrating the sun's energy at a tower. Molten salt flows through the tower and is heated to 560°C. The heated salt is then stored in a thermally insulated tank. When power is needed the molten salt is used to heat water, which turns to steam, which then turns turbines – a process identical to that produced by burning fossil fuels, but which replaces this burning with the concentrated power of the sun, thus producing no CO₂ emissions.

My educational journey

I first became interested in renewable energy technologies when I stumbled upon a book

called Sustainable Energy - Without the Hot Air by David Mackay, which explained how, with the energy technologies existing at the time of writing, and predicted increasing energy use, the UK cannot reach a target of 100% renewable energy, or even 100% sustainable energy. At least not on their own. Not without making changes to their energy efficiency, using offshore wind, and sourcing some renewable energy from other countries such as Spain.

This work spawned similar analyses in a number of countries, including the document Australian Sustainable Energy: By The Numbers written by Dr Peter Seligman and released by the Melbourne Energy Institute. The document explained how it is not only technically feasible, but also easy for Australia to reach 100% renewable energy – despite Australia being among the highest global energy consumers – because we have a small population

with a large landmass and amazing levels of sunshine. We also have some reasonable wind, tidal and geothermal energy sources.

In 2010 a group of volunteer engineers and scientists called Beyond Zero Emissions (BZE) released their Zero Carbon Australia Stationary Energy Plan. Unlike Seligman's document this was a fully costed, detailed plan which explained not only that we can convert Australia to 100% renewables, but how we can do it. The main thrust is that with a mix of 60% of our energy from solar thermal and 40% from wind, and for only \$8 additional public spending per household per week, Australia can get there within 10 years.

There was then talk of Port Augusta's power plants being shut down and BZE released a draft of their Repower Port Augusta plan. It turns out that Port Augusta's power stations are in a great spot for being replaced with CST, with plenty of sun, power lines already in place, and a work force already trained in most of the operations.

The formation of an alliance and birth of an idea

Since the Climate Emergency Action Network of South Australia (CLEANSA) began assisting BZE with the Repower Port Augusta campaign a number of other groups boarded the bandwagon and the Repower Port Augusta Alliance was established. The alliance made a number of trips to Port Augusta in order to promote the campaign and help with the formation of a community group. It was on one of these trips that the idea of walking from Port Augusta to Adelaide in order to raise community awareness was first conceived.

In April 2012 the final version of the Repower Port Augusta plan was released. To grab media attention a big rally would be needed with thousands of people in attendance, yet the last climate-based rally had been attended by barely 500 people. With the Australian Youth Climate Coalition (AYCC) on board the campaign the idea began to gain traction and become something feasible. With the support of this national powerhouse coalition led by Daniel Spencer, who moved to Port Augusta in order to ensure the success of the campaign, a community vote was held in the small town with 4,053 citizens voting to replace the power stations with CST, and only 43 voting for gas. This was clearly something worth talking about, and South Australian Energy and Mining Minister Tom Koutsantonis, despite formerly advocating shale gas – stating that when it comes to electricity he just wanted “to make sure the lights stayed on” – announced that he planned to visit the US to see CST in action.

This was a great start, but something more was needed to give the campaign even greater traction. The AYCC organised the Walk for Solar. Each walker needed to raise at least \$500 if they planned to do the whole walk – this covered everything from the absolutely amazing (mainly vegan and vegetarian) food to the running of the support vehicles, hiring of various trailers to carry all the gear including portable toilets, right through to advertising materials for the rally.

The Long Walk

More than 100 people participated in various parts of the walk, with more than 80 completing the whole two-week journey. During the walk we covered 20-30km each day – and yes, there were blisters, but by the third day I barely noticed them. Each night

we would set up our tents, many of which did not last the distance – we had so many tent poles snap it was crazy, and my own tent needed a decent amount of duct tape just to stay together in the strong winds of more than 60km/h. We were lucky enough not to suffer much rain, although thanks to Murphy we finished the walk in drizzle, walking into the rally exhausted, wet and bedraggled – a sight to behold!

The first 2-3 days of the walk was just like camping in the desert. It was dusty and dry with an amazing canopy of night sky studded with stars. The middle section of the walk consisted of beautiful greenery with large rolling fields. The last few days we really felt were walking into Adelaide as the scenery changed very quickly into an urban jungle. From trekking obscure dirt tracks to trudging along the Princes Highway, barely a metre or two from the cars and trucks zooming towards us at times, the draught blowing hats from some. Thankfully my hat – which many mistakenly believe never leaves my head, even whilst sleeping or showering – was impervious to the wind!

The walkers themselves were a mix of people from all states and territories and ranged in age from Ellie, a cute 5 year-old girl who walked a surprising amount of the way, through to a group of walkers past retirement age who put the young ones to shame! A large majority of walkers were university students – with more young women than men, many representing AYCC. Everyone who took part shared a passion for sustainability, and I loved hearing some of their amazing stories and learning so much from them.

Thanks must go out, in addition to all those who walked and their generous sponsors, to Michael Poland in particular. As one of the key organisers who pulled the whole walk together he provided amazing support

by working out the logistics, organising the different groups of people, and ensuring everything went smoothly – in addition to doing the walk itself. Without his tireless efforts the walk would not have been the success it was. Huge appreciation must also go to the amazing efforts of all of the support crew: from admin, support vehicle drivers, and camp crew, to people making food, sorting out logistics, and setting up the portable toilets and showers. It takes a solid team to pull off something as great as this.

Highlights of the walk included a visit to the top of a wind farm, talking with locals along the way, campfire singing, and group bonding. Although waking up at 6am every morning is certainly not my normal routine, seeing a double rainbow one morning was enough to make it all worth it, not to mention all the amazing sunrises and sunsets. An unexpected visit from Energy and Mining Minister Tom Koutsantonis en-route was the cherry on the cake. Stopping on the side of the road to speak with the walkers he explained that he was now in support of CST – an amazing turnaround from his former pro-gas stance. Before even finishing the walk we'd already created noticeable political change.

Despite the sun, rain, wind and everything else, we made it; we had walked 328km and were welcomed at last by a sea of over 1,500 people at the Rally for Solar. Dr Karl Kruszelnicki, a famous scientist and media personality, was MC for the event in which we blocked the streets of Adelaide to traffic as we marched to Parliament House to deliver the vote-count form the Port Augusta community vote. We then marched on to Victoria Square, the scene of many a demonstration over decades, for our final celebration. I

have to admit that I shed a tear or two. People who were strangers only two weeks before I now consider friends and family. We formed a bond that will last a lifetime, and which we will dedicate to changing the world for the better. Whilst there is still a lot more to do to get CST in Port Augusta, since the walk we have already had more wins and the ball has started rolling.

Myths busted

A story like this – one with the power to change the course of our history, to bring us into a sustainable renewable energy future – is not one that can be told without busting a few myths en-route.

The Economic Myth

The economic myth is that we can't afford to change to renewable energy. The reality is that we can't afford not to. According to the International Energy Agency we hit peak oil in 2006 with the extraction of 70 million barrels per day. Since then shortfalls in oil production have been somewhat countered by increases in unconventional fuels. Whilst there are sufficient reserves of unconventional fuels to last for a while, these fuels are very expensive to produce and very damaging to the environment. Even worse, economically speaking, is that the price of these non-renewable fuels only increase over time. Thankfully the price of renewable energy goes down over time and already Solar PV is cheaper than nuclear energy. Once a CST station is built the most expensive maintenance is usually cleaning the mirrors, something that can easily be automated in order to reduce labour costs.

We need to restrict our usage of energy from fossil fuels, using them specifically for the purpose of building

the renewable energy infrastructure we need so that we can remove our dependence on oil. The consequences of not doing this would be disastrous. We currently use fossil fuels to generate electricity, to power our transport and to grow our food. For every calorie of food energy consumed between 5 and 10 calories of oil energy are used to produce it. If we do not transition away from finite fossil fuels then we aren't going to be able power our homes, travel, or even eat.

The Technical Myth

The "technical" myth states that renewable energy sources can't provide base load electricity. Base load electricity is the amount of power required to meet minimum demands. Currently these demands are met by coal or nuclear power stations. The reality is that CST with storage, hydro-power, and geothermal are all able to provide base load power.

The technical myth goes on to claim that these technologies have not been proven effective. However, CST, Solar PV and wind power are all fully tested and proven technologies which have been used to great commercial success. CST technology was initially developed in the US as part of a research project, and has been demonstrated to work since 1981. The technology has been a great commercial success in Spain, with a number of solar towers built with over 168 gigawatt hours of annual production. During summer this year Germany produced an estimated 30 gigawatts of peak solar PV electricity production. Even by 2009 the Netherlands had already installed 1,879 onshore wind turbines to provide a good percentage of their power.

A further technical myth claims that it is simply not possible for us to provide for our energy demand using 100% renewable energy. In some countries such as Australia it is easy to provide 100% renewable energy, while in other countries it is harder. Even since 2008, when Mackay's Sustainable Energy without the Hot Air was released innovation has led to some great advances. Companies such as Nanosolar have worked out a way of mass printing a nanotechnology-based material onto aluminium to create solar photovoltaic cells at an order of magnitude cheaper, and at a much higher rate. It is now affordable to put solar on nearly any roof.

Amazing advances have also been made with the development of new grid-level energy storage technology comprising a battery, but not as most people know it. It uses liquid metals and is designed to run at hot temperatures. The technology, still in the early stages of development, is expected to be able to store 2 megawatts of electricity inside something the size of a shipping container – enough to power 200 households – certainly a great way of smoothing out the variability in energy generation from sources like wind and solar and providing energy even at night.

The Political Myth

The cost of building CST infrastructure is far beyond what you could hope to source through a kick-starter crowd funding campaign or through normal investment channels. It needs the help of the Australian government at either a state or federal level. Examples of federal support for renewable energy include the use of a feed-in tariff through which the cost of electricity production could be raised by 0.7c per kilowatt in order to install two solar thermal towers. This cost could be reduced to 0.3c per kilowatt if low interest rate loans were made available.

Another myth busted is the notion that political activist campaigns don't work. With the change of heart witnessed in Tom Koutsantonis, South Australia's Energy and Mining Minister, it is clear that change does occur. Only a few days ago parliament announced bipartisan support for a select committee to investigate the proposal to replace Port Augusta's coal fired power stations with CST. This is a required process, but is certainly a positive sign.

The "What Can 1 Person Do?" Myth

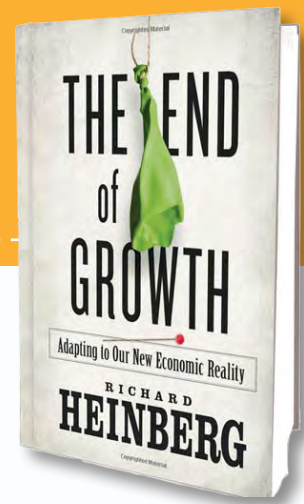
Many people think that they can't make a difference. This is wrong; you can make a difference, and you can make an even bigger difference if you work together with like-minded passionate individuals. From the seed of an idea, the hope that we could bring large-scale renewable energy to Australia spread throughout not only Port Augusta, but all of Australia, and before long there was a united community.

During the Walk for Solar it became clear that each of the walkers represented hundreds, if not thousands, of people. Thousands of images and hours of footage taken during the walk are now publicly available online, all increasing the reach of the message. Many of my friends, both online and offline, have been amazingly supportive, and the campaign has inspired them to make more sustainability related changes in their own lives. One friend even came up with an industrial design that could make small solar thermal installations cheaper! So who says 1 person can't make a difference? We all have, and will continue to do.





Book Review: *The End of Growth*



The conventional wisdom on the state of the economy – that the financial crisis that started in 2008 was caused by bad real estate loans and that eventually, when the kinks are worked out, the nation will be back to business as usual – is tragically wrong. Our real situation is far more unsettling, our problems have much deeper roots, and an adequate response will require far more from us than just waiting for the business cycle to come back around to the “growth” setting. In reality, our economic system is set for a dramatic, and for all practical purposes permanent. Reset to a much lower level of function. Civilization is about to be downsized.

This is how chapter 1 of Richard Heinberg's most recent book begins. *The End of Growth*, published in 2011 and inspired by some key realizations following the global financial crisis of 2007-2008, is founded on one major premise: our growth paradigm will come to an end. Whether we like it or not. Whether we plan for it or not.

The End of Growth kicks off with a brief history of economics – rendering simple for the lay-person a great deal of what might have once upon a time made the field an off-putting no-go zone “best left to the experts”. Once the basics are explained Heinberg treats the reader to an indicting summary of our economic bubble, how it inflated to its current proportions, and how what we are hearing right now is the sound of air escaping.

We have long been in a debt-cycle with the money required for our growth economy literally generated at the point of loan creation, and now it has spiralled out of control. As the money supply grows, so, therefore, does the debt, a self-defeating paradox in a system that requires growth in order not to implode. It is made abundantly clear that our bubble is deflating – the system is imploding – there was nothing else it could do; the system was designed as a house of cards waiting to fall and we have hit the wall.

Heinberg rapidly powers on with backing up his assertion that growth is nearing its end. Toppling one domino after another he explains how peak oil, water, food, minerals – basically peak everything – along with our worsening climate emergency are working to ensure we never bounce back to today's levels of economic productivity. Inspired by the famous 1972 *Limits to Growth* study, Heinberg explains how many of the predictions of the early 70's were more accurate than we care to imagine. With the strong correlation between oil price spikes and recession Heinberg illustrates how prices, driven high by decreasing availability, are putting countries in a position whereby economic growth is simply not an affordable option.

Just as the reader begins to hope that there may be a silver lining to this cloud in the form of technological innovation Heinberg dispels the myth that technological fixes can help us to bounce back. The myths of infinite substitution of resources and ever-increasing energy efficiency are

quickly debunked as Cornucopian idealism with no solid basis. Heinberg claims that we will almost certainly have lowered energy production capabilities in the future, thus we need to focus on reducing our dependence on energy.

The End of Growth paints an unnerving picture of what is to come in a world recovering from an economic growth hangover. Population pressures, food and water scarcity and ever-increasing inequality make for an unstable geopolitical climate for which there is no easy solution. Yet Heinberg is unafraid in pointing out the elephant in the room: that population will have to be stabilized in order for us to have a chance of addressing our looming resource shortages. He aims to win no popularity points. The storm clouds are gathering.

To get ourselves unhooked from growth Heinberg posits that we need to find alternatives to GDP as ways of measuring where we're at. With GDP really just a measure of economic and material throughput, its goal is not to make life better, but to make more stuff and more money. We need to reform the field of economics itself. The field, at present, treats the environment as a subset of the economy whereas the reality is precisely the opposite. Real questions we need to ask, and raised in this courageous book include: How big an economy do we need? How big a population do we need and can support? The reality is that nature is a tough negotiator – it all has to be done in accordance with nature's dictates.

The End of Growth is not pessimistic about the future, however. Provided we can get through the difficult times ahead there are things we can take joy in, things that haven't peaked and are unlikely to: community, cooperation, happiness, creativity, and intergenerational solidarity are just a few mentioned. While our quality of life has, in many ways, suffered over the last few decades of chasing growth *The End of Growth* predicts that we could possibly have a higher standard of living in the future – on a post-growth planet – even without all that we have at present.







Documentary Review: **A Crude Awakening**

Referred to as “the bloodstream of the world economy”, oil is the key factor in our society’s rapid rise to technological advance and a material cornucopia for those with access to its bounty, yet the other side of the same coin may prove to be our society’s precipitous undoing. Moving from an era of cheap, abundant energy into one of expensive, hard-to-reach energy will likely alter our world in ways that are difficult for us to imagine.

In only the first five minutes of *A Crude Awakening*, Basil Gelpke and Ray McCormack’s 2006 documentary, the viewer is faced with an impending downward spiral of societal decay as we reach a post-peak oil precipice without knowing the gradient of the downward slope ahead. Unemployment, poverty, starvation and bankruptcy are all problems we are already facing, and in proportions growing toward a full-scale societal collapse, only a few years away.

The first part of this aptly titled documentary treats the audience to a short but memorable history lesson of the world’s oil deposits, produced many millions of years ago following two very brief moments of extreme global warming. The conditions which produced the substance upon which the global economy is based are not exactly commonplace, and the pace of production measurable in geological epochs is intangible to human notions of time. Still, we have used up most of the existing deposits over less than two centuries, in an unprecedentedly arrogant display of blasé pomposity.

A Crude Awakening goes on to detail why we are so heavily addicted to oil, with a single barrel producing enough energy to equal a full year’s worth of work for 12 people. The investment of only \$1 returns 25,000 hours of physical human labour. With rapidly spliced fast-motion images of modern technology from motorised transport to automated factory machinery it becomes easy to see why life on a post-oil planet could resemble a scarcely imaginable post-apocalyptic horror for a society that worships petroleum.

Rapid-fire statistics are churned out at mechanical speed, hitting the viewer with the force of recognition that most of our modern life is not only unimaginable without oil; it is impossible. From the point of discovery, oil led to economic boom-time everywhere it was found, but no boom is without its bust. Slow-moving imagery of the post-oil bust accompanies the narration that only explains the obvious that

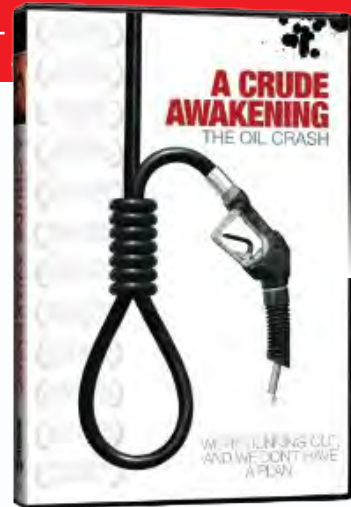
most don’t want to hear: when the oil ran out, the commerce dried up; now all that can be seen is rusting machinery and derelict buildings, a present-day portent of our post-oil destiny.

The imagery then turns to the violence of wars as oil is cited as both a magnet and a catalyst for war, providing the fuel to maintain the economic enterprise, prolonging and intensifying it. Candidly citing continuous supplies of oil from Baku, Azerbaijan, as the cornerstone in Russia’s WWII victory against the Germans, Gelpke and McCormack remind viewers of the more sinister side of resource acquisition.

One feels as though one should be watching *A Crude Awakening* in a darkened room with the sound turned down low as geo-engineers, oil industry business experts, political science professors, economists, and oil historians confide in the viewer, who forced to the edge of their seat in anticipation of the truth that must only be uttered under in a whisper. We are advised that public data is both misleading and misunderstood, with remaining oil reserves exaggerated for obvious reasons: the safeguarding of economic interests in a speculative market economy.

With former oil-producing countries now net-importers it seems the final frontier of oil discovery has long since been crossed. Around the world production is stabilizing, not increasing, as the notion that geo-engineering technologies might help us extract more, and not just faster, has been shown to be a myth. Although this is known in the industry, the producers confide, it is not well-advertised that once peak oil has been reached we will only face precipitous decline with embedded economic consequences that are unavoidable.

Spliced with old black and white adverts from the 1940’s-60’s the film demonstrates how our culture has been persuaded to consume based on the narratives of our naïve heyday. In order for us to perpetuate our lifestyles we learn that we will have to accept our involvement in war after war, with the alternatives of decoupling the economy, and transitioning to alternative sources of energy not taken seriously by most of the world’s governments.





As with most doom-and-gloom documentaries the audience expects a happy ending – an excuse to sit back, relax, and continue with business-as-usual. A Crude Awakening delivers something rather different. Dismissing oft-touted saviours such as electric cars, the hydrogen economy, biodiesel, nuclear energy, wind power, and solar technology, the evidence seems damning: it takes a lot of optimism to believe we can match our current energy demand with any of the options available to us in a post-oil world.

We are reminded that oil is the factor that enabled our population to grow to more than six times its pre-oil size. With the understanding that we cannot sustain our present population without petrochemicals the audience is confronted with the daunting question of whether this means we will have to return to a pre-oil population. Gelpke and McCormack clearly empathize with the fact that it is so hard for us to

accept, to even think about such things – it's never happened before, and we are so attached to our ways, and so unprepared for our situation. But A Crude Awakening provides precisely that: an awakening, from which the viewer cannot return to a peaceful slumber, the fracturing of a myth that has long sustained the unsustainable, a myth that crumbles to dust upon recognition for what it is. We cannot go on like this much longer. Everything is destined to change, and dramatically so.

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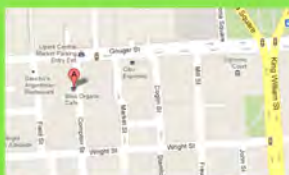
To learn more about A Crude Awakening and to view the film please visit: www.oilcrashmovie.com. Alternatively the film can be watched on Youtube: www.youtube.com/watch?v=tiXIBMMUx4Q



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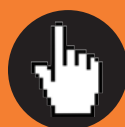
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